PHD

Women Smoking Cessation and Disadvantage

A Mixed Methods Investigation of the Factors Influencing Smoking Cessation in Women

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My father was a strong motivator in my pursuit of academic success and therefore, I would like to dedicate this research to my father Peter Beck who sadly passed away in May 2012 as a result of many years of tobacco use.

DECLARATION

I declare that the work carried out as part of this PhD thesis is my own. The PhD research has not been incorporated for the submission of another qualification. All work reported within the PhD thesis was carried out by the author and where other sources have been consulted or data used it is clearly indicated within the PhD thesis.

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ABSTRACT:

Background

Women are less likely than men to successfully quit smoking when using NHS cessation services (The Information Centre, 2012, ICD, 2011).

Methods

The research used mixed methods and consisted of two studies. Study one was a secondary data analysis of service use data from cessation services in Glasgow, North Cumbria and Nottingham. The study examined whether women had lower cessation outcomes compared to men. Further analyses explored whether women using cessation support differed from men in terms of demographics, smoking behaviour, interpersonal characteristics or patterns of service use. The predictors of cessation success for women were identified. Study two consisted of 25 semi-structured interviews and 1 focus group (n=5) which explored women's experiences of smoking, smoking cessation and NHS cessation support. Thematic analysis was used to analyse this data.

Results

Lower quit rates were observed for women in the English samples (4 weeks, 52.1% vs. 57.8%, 52 weeks, 12.7% vs. 17.2%) compared to men. Women experienced more markers of disadvantage compared to men. Disadvantage appeared to mediate smoking cessation outcomes in women by increasing nicotine addiction. Markers of nicotine dependence predicted smoking cessation outcomes in women. However, the qualitative investigation indicated that the emotional side of addiction also appeared to have an important role in the smoking behaviour for women. Variation existed in the preferred intensity of cessation support. However, knowledge of available cessation support options was low; suggesting that cessation services should ensure smokers make an informed choice about the format of cessation support they use.

Conclusions

The key finding of this thesis was that it highlighted that smoking and smoking cessation may be affected by the emotional role that smoking can have within women's lives. Ways that NHS support could be altered to meet women's needs are discussed within this thesis.

CHAPTER ONE: INTRODUCTION

This Chapter contains two sections which outline the justification for this research, the background and beliefs of the researcher and how the thesis is organised.

1.1 JUSTIFICATION FOR THE RESEARCH

In the UK (and globally) smoking is the single biggest cause of preventable morbidity and death (HM Government, 2011a; WHO, 2011c). Tobacco consumption is responsible for more deaths per year in England (and the UK) than the next six causes of preventable death combined (drug use, road accidents, other accidents and falls, diabetes, suicide and alcohol abuse) (HM Government, 2011a). Worldwide someone dies from the effects of tobacco every 6.5 seconds and tobacco consumption kills half of its users (WHO, 2011c). Tobacco use costs the NHS an estimated £50 million per week (HM Government, 2011a); and therefore curbing the effects of the tobacco epidemic remain a significant public health challenge within the UK.

The tobacco epidemic disproportionately effects the poorest members of society (Lopez, Collishaw, & Piha, 1994). Individuals with a low socio-economic status (SES) are most likely to smoke, less likely to quit and as a consequence are disproportionally more likely to suffer the associated health effects of smoking (Gruer, Hart, Gordon, & Watt, 2009; Jarvis & Wardle, 2006; Kotz & West, 2009; ONS, 2011b). Smoking has been reported to be one of the leading causes of health inequalities both internationally and within the UK (Gruer, et al., 2009; HM Government, 2011a; WHO, 2008b). In response to this the UK government has developed tobacco control policies with the aim of reducing tobacco use in a bid to reduce associated health inequalities (DH, 1998; HM Government, 2010b, 2011a). Such policies are neo-liberal in principle and promote the role of individual responsibility in the management of health and wellbeing (Crawshaw, 2012). The problematizing of behaviours within public health has been criticised for neglecting the social, cultural and economic circumstances that are associated with behaviour (Mair, 2011). My view as a researcher is that tobacco control policies although important in tackling the behavioural antecedents of health are limited in their ability to alter the wider social determinants of health. Therefore, a need exists to develop wider social policies in addition to tobacco control so that the emphasis is not

solely on altering individual behaviour without considering the wider circumstances that exist to promote the use of tobacco or other 'problem behaviours'.

My guiding discipline as a researcher is health psychology (I previously completed an MSc in health psychology and am concurrently completing a professional doctorate to achieve chartered status as a health psychologist). Health psychology has been defined as:

> *"an aggregate of educational, scientific and professional contribution of the discipline of psychology to the promotion and maintenance of health, the prevention and treatment of illness, the identification of etiologic and diagnostic correlates of health, illness and related dysfunction and the improvement of the health care system and health policy formation" (pg815) (Matarazzo, 1980)*

Lifestyle behaviours such as tobacco use, dietary choices, exercise and alcohol consumption have long been known to impact upon an individual's health (Doll & Peto, 1981; McKeown, 1979; Mokdad, Marks, Stroup, & Gerberding, 2004). As a health psychologist I adopt a 'biopsychosocial approach' and believe that behaviour occurs as a result of the interaction of biological, social and psychological factors (Engel, 1977, 1980). The field of tobacco control has been criticised for conceptualising tobacco use as a disease (Mair, 2011). The use of terms such as 'tobacco epidemic' are used within this thesis to fit in with the conventions of the tobacco control field rather than to imply that use of tobacco is a disease.

As a researcher I am most interested in understanding why individuals engage in unhealthy behaviours and I am keen to develop effective behaviour change interventions to assist individuals in improving their health. I have experience of working within public health delivering lifestyle interventions and I have a personal interest in tobacco control as a research area. This interest stemmed from the personal experience of being an ex-smoker and witnessing the negative health impact that smoking had upon family members. These interests motivated me to apply for a PhD funded studentship. The research topic of '*women and smoking cessation'* was defined by the research supervisors who secured funding for the research through the ESRC as part of their bid to establish a UK Centre for Tobacco Control Studies (UKCTCS).

At an international level, smoking levels are continuing to rise amongst women (Samet & Yoon, 2001; Samet & Yoon, 2010) and within the UK more girls are initiating smoking compared to boys (The Information Centre, 2011b). Consequently, women have been identified as a priority group for research (WHO, 2003). The WHO have called for a gender equity approach to be used when examining the impact of all policy initiatives (WHO, 2003). Within the UK, women who use NHS cessation support have been persistently reported to have lower cessation outcomes compared to men who access cessation support (ISD Scotland, 2010, 2011; The Information Centre, 2005, 2007, 2008, 2009, 2010, 2011c, 2012). Despite persistently lower cessation outcomes of women using cessation support, there has been a lack of research examining women's experiences of using NHS stop smoking services. Therefore the focus of this thesis was to understand the factors that affect smoking cessation outcomes of women using NHS cessation support. Women's experiences of smoking cessation and of using NHS cessation support are explored in depth. The findings of the research provide an important insight into women's experiences of smoking and smoking cessation and highlight ways that NHS cessation support may be altered to meet women's needs.

1.2 ORGANIZATION OF THE THESIS

Conducting research on smoking as a complex health issue often requires more than one disciplinary perspective. Thus although my research background is psychology, a multidisciplinary approach is used throughout the thesis and evidence from many areas of research such as tobacco control, epidemiology, public health and health promotion are drawn upon. The use of such an approach rather than relying solely on the evidence of one research discipline has enriched the quality of the thesis. However, the ability to navigate and interpret the findings of many different research disciplines requires a great level of understanding about different methodologies and analytical techniques.

The thesis is organised into seven Chapters. This Chapter has sought to explain why the research was conducted. The second Chapter within the thesis is a literature review. The literature review outlines the scale of the UK tobacco epidemic and describes tobacco control policies used by the UK government to reduce smoking prevalence. Smoking cessation services are a key policy option used by the UK government to help smokers to quit smoking and therefore a detailed overview is given about development and

evidence base surrounding NHS cessation support. As discussed within this Chapter women in the UK have had lower success rates when using the NHS stop smoking services compared to men (ISD Scotland, 2010, 2011; The Information Centre, 2011c, 2012). Therefore a key focus of Chapter 2 is to explore in detail what is known about the factors that might influence smoking behaviour and cessation in women. The aim of this PhD research was to *examine the factors that affect women's cessation attempts and cessation success and to explore disadvantaged women's experiences of smoking cessation and the NHS stop smoking services.*

A mixed methods research design was used and two studies were conducted to fulfil the research aims. The first study was quantitative and primarily examined which factors were associated with smoking cessation outcomes in women. The qualitative research explored women's experiences of smoking cessation and using NHS support. Interviews were conducted in Bath and Dudley and research was conducted with service users, non-service users and lost to follow up clients to allow insight into a range of experiences. Chapter 3 describes both research studies and the limitations associated with the design of the research.

Chapter 4 summarises the results of a secondary data analysis of service use data from NHS cessation services in North Cumbria, Nottingham and Glasgow. Within this Chapter analyses are presented which examine whether women were less likely than men to quit smoking when using NHS cessation support at 4 and 52 weeks. Differences between men and women in terms of their demographic characteristics, the level of deprivation they experienced, their household circumstances, their level of addiction to smoking, their interpersonal characteristics or their patterns of service use were also explored in an attempt to identify factors that were associated with cessation success for men and women. The role of deprivation in smoking cessation outcomes was also explored. The results of the qualitative investigation are presented within Chapters 5 and 6. The focus of these Chapters was to explore women's experiences of smoking, the factors that engage women to quit smoking and women's experiences of using NHS cessation support.

Chapter 7 is the final Chapter within the thesis. The purpose of this Chapter was to integrate the research as a whole and examine the key findings of the thesis in light of

wider research. Furthermore, the implications of this research in relation to smoking cessation policy are discussed. This research may be crucial in improving women's cessation outcomes when using NHS cessation support.

CHAPTER TWO: THE TOBACCO EPIDEMIC, SMOKING CESSATION AND WOMEN

2.1 INTRODUCTION

This chapter outlines the scale of the tobacco epidemic both globally and within the UK. The health effects associated with tobacco use and common policy options used by governments to control the tobacco epidemic are summarised. Smoking cessation services have been a major component of UK tobacco control policy (HM Government, 2010b, 2011a) and therefore an overview of the development and structure of NHS cessation support is given. It is important to note that policies do not impact equally upon all groups of society (Greaves & Jategaonkar, 2006; Greaves, Jategaonkar, & Sanchez, 2006; Greaves et al., 2006; Greaves, Vallone, & Velicer, 2006). Women, in particular have been identified as a demographic group that consistently have lower cessation outcomes when using NHS cessation support (ISD Scotland, 2010, 2011; The Information Centre, 2005, 2006, 2007, 2008, 2009, 2010, 2011c, 2012) and therefore, the later part of this Chapter explores why women that use NHS cessation support may be less likely to quit smoking compared to men. Moreover, specific strategies that have been used to assist women in quitting smoking are considered.

2.2 WHY IS THE USE OF TOBACCO A PUBLIC HEALTH PROBLEM?

There are more than one billion smokers worldwide and smoking is associated with an estimated 6 million deaths each year (WHO, 2011c). It is predicted that by 2030 this figure may have risen to 8.3 million and over the course of the 21st century one billion people could die as a result of the tobacco epidemic (Mathers & Loncar, 2006; WHO, 2008b, 2011d). Smoking has been described as *"one of the biggest public health threats the world has ever faced"(WHO, 2011c)*. It is estimated that every 6.5 seconds someone worldwide dies from the effects of tobacco (WHO, 2011d). The impact that smoking has upon health, the scale of the global and UK tobacco epidemics and the recommended policy options for combating the tobacco epidemic are now summarised.

2.2.1 The impact of smoking on health

Smokers have an increased risk of mortality compared to non-smokers. It is estimated

that 50% of smokers will die prematurely as a result of smoking tobacco (HM Government, 2010b). Moreover, a longitudinal study which examined the health of male doctors over 50 years, found that smokers lived an average of ten years fewer than non-smokers (Doll, Peto, Boreham, & Sunderland, 2004).

The link between lung cancer and smoking was first highlighted in 1956 when research showed that lung cancer incidence was related to the cumulative number of cigarettes smoked (Doll & Hill, 1956). Since then it has been estimated that 70% of lung cancers are attributable to tobacco use (WHO, 2011a). Smoking has also been causally linked with many other forms of cancer; laryngeal cancer, oesophageal cancer, mouth cancer, cervical cancer, bladder cancer, kidney cancer, pancreatic cancer, stomach cancer and acute leukaemia (Bjork et al., 2001; Forman & Burley, 2006; Lowenfels & Maisonneuve, 2006; Rubagotti, Martorana, & Boccardo, 2006; Simons, Phillips, & Coleman, 1993; USDHHS, 2004; Zeegars, Tan, Dorant, & Van der Brandt, 2000)

Smoking has been shown to be related to the incidence of coronary heart disease and respiratory disease. Smokers are more than twice as likely than non-smokers to have a myocardial infarction or a stroke (Marcus, 2008; Shinton, 1997; Teo et al., 2006; Yusuf et al., 2004). Moreover, smoking has been identified as the most important risk factor in the development of Chronic Obstructive Pulmonary Disease - COPD (USDHHS, 2004; Van der Meer, Wagena, Ostelo, Jacobs, & Van Schayck, 2008). Smoking has also been causally related to the development of acute respiratory illnesses such as pneumonia (Almirall, Gonzales, Balanzo, & Bolibar, 1999).

Smoking has also been shown to impact upon reproductive health. It increases the risk in women of suffering from estrogen deficiency disorders and menstrual problems such as dysmenorrhoea, secondary amenorrhea and menstrual irregularity (USDHHS, 2001). Smoking also increases a woman's chances of experiencing early menopause (Cramer, Harlow, Xu, Fraer, & Barbieri, 1995; Midgette & Baron, 1990; Parente, Faerstein, Celeste, & Werneck, 2008; USDHHS, 2001). Smoking is associated with delayed conception and decreased fertility in women (Baird & Wilcox, 1985; Howe, Westhoff, Vessey, & Yeates, 1985; Hull, North, Taylor, Farrow, & Ford, 2000; Samet & Yoon, 2010; USDHHS, 2001) and in men it has been associated with a 50% increase in the

risk of impotence (Mannino, Klevens, & Flanders, 1994) and a decrease in sperm quality (Kumosani, Elshal, Al-Jonaid, & Abduljabar, 2008).

Women that smoke during pregnancy are at an increased risk of experiencing complications (such as placenta previa and abruption) compared to non-smokers (Naeye, 1980; USDHHS, 2004; Williams et al., 1991). Smokers also have an increased incidence of ectopic pregnancy, spontaneous abortion, pre-term delivery, stillbirth, neonatal death and sudden infant death syndrome (Alm et al., 1998; Cnattingius, Haglund, & Meirik, 1988; Cooke, 1998; Golding, 1997; RCP, 1992; Samet & Yoon, 2010; USDHHS, 2001; Wilcox, 1993). It is estimated that smoking during pregnancy increases the risk of infant mortality by 40% (HM Government, 2011a). Moreover, smokers are more likely to have babies with a low birth weight which can lead to short-term and long–term health problems for the infant (Broughton-Pipkin, 2008; Dempsey & Benowitz, 2001; Stocks & Dezateux, 2003; USDHHS, 2001). Exposure to secondhand smoke in childhood increases a child's risk of pneumonia, bronchitis, asthma and middle ear disease and is associated with decreased lung function (HM Government, 2011a; SCOTH, 2004).

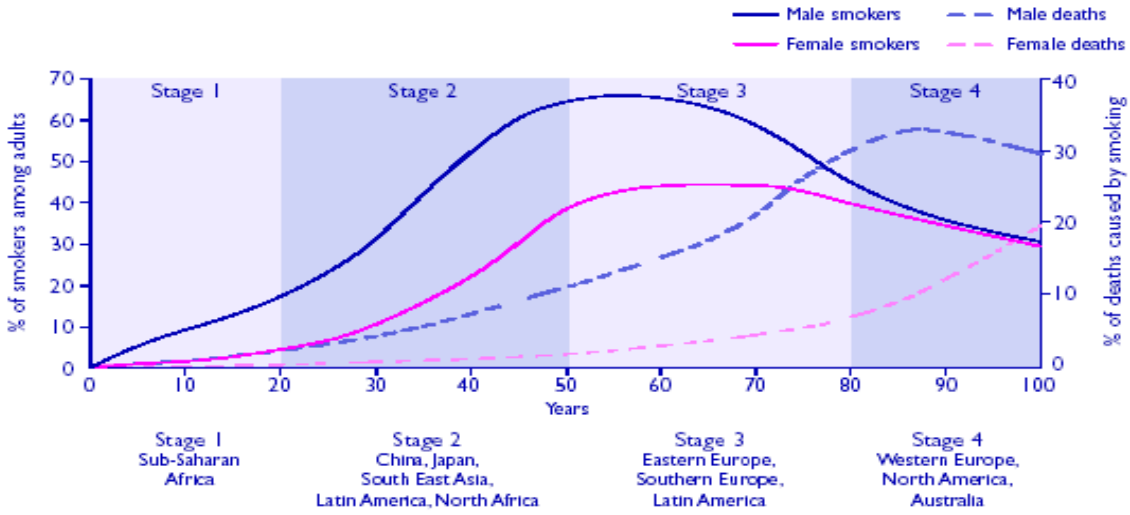
Research into the health effects of smoking has primarily been conducted on men (USDHHS, 2001); therefore, the exact impact of tobacco use on women's health is unknown. It is argued that if the duration and intensity of smoking are similar for men and women then smoking related deaths and illnesses should be comparable between the sexes (Chollat-Traquet, 1992). However, other research has suggested that women that smoke may have an elevated risk of developing coronary heart disease compared to men (Huxley & Woodward, 2011). It is unclear why this would be the case; but other research has demonstrated that the use of oral contraceptives increases women's risk of arterial disease, myocardial infarction and stroke (Croft & Hannaford, 1989; Lewis, Spitzer, Heinemann, Macrae, & Bruppacher, 1996; Owen-Smith, Hannaford, Warskyj, Ferry, & Kay, 1998; Samet & Yoon, 2010; WHO Colloborative Study of Cardiovascular Disease and Steriod Hormone Contraception, 1996a, 1996b). Furthermore, other research has indicated that women are more likely than men to develop adenocarcinoma (which is an often fatal form of lung cancer) (Ferguson, Skosey, Hoffman, & Golomb, 1990). This has been hypothesized to be due to women's

increased use of low tar and filter tipped cigarettes (Joossens, 1999; Thun et al., 1997). Therefore, it is possible that tobacco use may impact more severly on women's health due to their use of contraceptives and cigarette choices. Future research should be inclusive of both sexes to ensure that the impact of smoking on the health of both men and women is accounted for.

2.2.2 A global tobacco epidemic

The use of tobacco has been classified as a global epidemic. The use of such terminology (i.e. epidemic) has been criticised for inferring that tobacco use is a disease (Mair, 2011). Although tobacco use is not a disease the associated health impacts are at epidemic proportions which is why such terminology is used within public health.

Figure 1: A model of the tobacco epidemic.



Source: (CRUK, 2010).

Figure 1 depicts the four stages of the tobacco epidemic (Lopez, et al., 1994). The first stage is characterised by low prevalence rates (below 15% in men and under 5% in women) (Abdullah & Husten, 2004; Lopez, et al., 1994). This stage of the epidemic normally last between one to two decades and incidents of tobacco related disease or deaths are scarce (Lopez, et al., 1994). The second stage of the epidemic is characterised by a rapid increase in smoking prevalence rates (male smoking prevalence rates peak between 50-80%) (Abdullah & Husten, 2004; Lopez, et al., 1994). During this stage an estimated 10% of male deaths are thought to be related to tobacco use. Tobacco control measures are usually sporadic at this stage (Lopez, et al., 1994).

During stage three female smoking prevalence rates peak at around 35-45% (Lopez, et al., 1994). However, during this stage male smoking prevalence rates start to decline (Abdullah & Husten, 2004). The rate of male tobacco related deaths rises to around 25-30% during this stage, however, female tobacco related deaths remain low (at around 5%). Tobacco related policies become more common within this stage and smoking becomes less acceptable within society (Lopez, et al., 1994). Stage four of the model is characterised by a slow decline in smoking prevalence rates within both sexes. Male tobacco related deaths are expected to peak at around 30-35% of all deaths and smoking related deaths in women usually peak two to three decades later when smoking typically accounts for 20-25% of all deaths. The UK is in stage four of the tobacco epidemic.

The tobacco epidemic does not affect all members of society equally. The most affluent individuals and those with a higher level of education are most likely to quit smoking (Amos, 1996; INWAT Europe, 1999; Jarvis & Wardle, 2006). This leads to discrepancies in prevalence rates between the most and least affluent individuals in society. Such discrepancies can widen over time. Furthermore, if a higher rate of affluent individuals quit smoking; smoking becomes associated with disadvantage. Around 80% of the world's smokers live in low or middle income countries (Hosseinpoor, Parker, Tursan d'Espaignet, & Chatterji, 2011; WHO, 2011c). The associated tobacco related illnesses will result in global health inequalities between richer and poorer countries unless preventative action is taken (WHO, 2008b).

2.2.3 The UK tobacco epidemic

Smoking is the biggest cause of preventable illness and death in the UK. It is estimated that smoking kills more people in the UK than the next six most common causes of preventable death combined (i.e. drug use, road traffic accidents, other accidents, preventable diabetes, suicide and alcohol abuse) (HM Government, 2011a). In 2010, 18% of all deaths in England and 24% of all deaths in Scotland (between 2000-04) were attributable to smoking (ScotPho, 2007; The Information Centre, 2011d). Moreover, it is estimated that 5% of all hospital admissions in individuals aged over 35 are caused by smoking (The Information Centre, 2011d).

Prevalence rates are used to monitor the extent of the tobacco epidemic and the impact of policy changes in the UK. Prevalence rates are largely based on self-report. This has

caused some concerns about the accuracy of smoking prevalence estimates (West, Zatonski, Przewozniak, & Jarvis, 2007). West et al. (2007) compared self-reported measures of smoking with biochemically validated measures and found that self-reported measures underestimated smoking prevalence in England by 2.8%. However, it is generally assumed that the under-reporting of smoking prevalence would remain constant over time. This means that if prevalence rates are slightly inaccurate the general direction of the trend should remain accurate (GHS, 2006).

The UK tobacco epidemic began during the early part of the 20th century. Male smoking rates increased dramatically over the first fifty years of this period peaking in the late 1940's at around 65% (RCP, 2007). Women started to smoke roughly 20 years after men and prevalence rates peaked in 1966 at around 44% (RCP, 2000). Prevalence rates declined steadily throughout the 1970's and 1980's. Overall adult prevalence rates were 45% in 1974 (51% men and 41% women) and 35% in 1982 (GHS, 2006). The rate of adult smoking prevalence declined until the mid-1990's when smoking prevalence rates started to plateau (DH, 1998). Traditionally more men than women have smoked in the UK. However, recently the gap between male and female smoking rates has narrowed. In 2009 it was estimated that 22% and 26% of men and 20% and 23% of women in England and Scotland smoked respectively (ONS, 2011b; The Scottish Government, 2011).

The overall adult smoking prevalence rate in 2009 in England was 21% which surpassed the target set in 1998 of 24% (HM Government, 2010b). Targets outlined in *Smoking Kills* to reduce the smoking prevalence of 11-15 year olds (to 9%) and pregnant women (to 15%) in England also appear to have been met (and surpassed) in 2010 (DH, 1998; ONS, 2011b; The Information Centre, 2011b). Similar targets were also set in Scotland. However, data indicated that the adult smoking prevalence was 24% in 2009 indicating that the 2010 target of 22% may not have been achieved despite considerable overall decline (smoking prevalence was 35% in 2001 in Scotland) (ONS, 2010b; The Scottish Government, 2010a, 2010b). Targets about the smoking prevalence of pregnant women and young people were met (Scottish Public Health Observatory, 2010; The Information Centre, 2011a; The Scottish Government, 2002, 2010a). The election of the UK coalition government in May 2010 meant that new targets rebadged

as ‘ambitions’ were set with regards to tobacco control in England (HM Government, 2011a). Data collected in 2010 illustrated that two of these ‘ambitions’ which related to smoking in pregnancy and young people had already been met (The Information Centre, 2011a, 2011b); this suggests that the coalition government do not plan to make much progress in tobacco control over the next five years.

The rate of decline in smoking prevalence has been faster in more affluent groups. In England between 1998 and 2009, smoking prevalence amongst non-manual groups declined from 22% to 16%, whilst the smoking prevalence in manual groups declined from 33% to 26% (ONS, 2011b); a similar pattern was also observed in Scotland (The Scottish Government, 2010b). Furthermore, those that experienced multiple markers of disadvantage (such as poor housing, unemployment, low levels of education etc) were even less likely to quit smoking. Between 1973 to 2003 it was estimated that cessation rates (i.e. the percentage of smokers making a quit attempt) increased from 25% to 58% amongst the most affluent, whereas cessation attempts remained at 10% amongst individuals experiencing multiple markers of disadvantage (Jarvis, 1997; Jarvis & Wardle, 2006).

Other factors such as belonging to a lower occupational class, living in crowded or rented accommodation, having no access to a car, being unemployed, having low educational attainment and being separated, divorced or a lone parent have also been associated with smoking (Jarvis & Wardle, 2006). These factors appear to hold a similar risk for men and women with the exception of being a lone parent which is only associated with smoking in women (Jarvis & Wardle, 2006). This is likely to reflect the fact that women are more likely than men to be lone parents and have increased caring responsibilities (ONS, 2010a).

The UK government has made a concentrated effort to reduce the health inequalities associated with smoking. A target was set to reduce the smoking prevalence of routine and manual workers in England to 26% or less by 2010 (HM Government, 2007). However, this target was not fulfilled as the prevalence rates for this group in 2009 were estimated to be 28% (ONS, 2011b). Furthermore, recent data from the Office of National Statistics suggests the difference in smoking prevalence rates between the most and least affluent individuals in England appears to be widening rather than decreasing

(ONS, 2010b). In 1998 individuals employed within a manual job were 1.5 times more likely to smoke than those employed in non-manual jobs; however, by 2008 this figure had increased to 1.7. Such data highlights the continued importance of trying to reduce the smoking prevalence of the most deprived in a bid to reduce associated health inequalities. The next section outlines the key strategies of tobacco control policy within the UK.

2.3 TOBACCO CONTROL POLICY

Tobacco control policy within the UK was fragmented until the late 1990's when a comprehensive tobacco control strategy was introduced by the Labour government (McNeill, Raw, Whybrow, & Bailey, 2005). *Smoking kills* (DH, 1998) was the UK's first white paper on tobacco which outlined a multifaceted tobacco control strategy in an attempt to denormalise tobacco use and reduce smoking prevalence in the UK. Two subsequent tobacco control policies have also been published (HM Government, 2010b, 2011a). Each country within the UK has its own tobacco control strategy; however, many policies apply to the UK as a whole, such as the prohibition of tobacco advertising, product regulations (such as labelling) and tax and anti-smuggling policies. Furthermore, all countries in the UK have implemented smoke-free legislation and offer smoking cessation support. Research indicates that the UK appears to be performing well compared to other countries in Europe (Joossens & Raw, 2007, 2010) in relation to the implementation of tobacco control policy.

The aim of tobacco control policies and interventions are ultimately to reduce smoking prevalence. Such policies and interventions can be criticised for having a limited focus and neglecting the root cause of smoking. Their focus is on reducing tobacco use rather than tackling the wider determinants of tobacco use (such as poverty and the experience material disadvantage). This focus may be why the most deprived smokers struggle to change their behaviour as the factors that are causally associated with smoking may not be being addressed by tobacco control policies. Therefore, tobacco control policies and initiatives should be developed alongside wider social policies which seek to amelioriate or reduce the effects of deprivation and poverty.

Overall the tobacco control strategies described have been helpful in controlling the tobacco epidemic (and appear to have reduced smoking prevalence). However, not all

smokers change their behaviour as a result of tobacco control policies and it has been argued that such policies have been associated with stigma amongst continuing smokers (Bayer, 2008; Bayer & Stuber, 2006; Bell, Salmon, Bowers, Bell, & McCullough, 2010; Graham, 2012; Ritchie, Amos, & Martin, 2010; Stuber, Galea, & Link, 2008). The use of stigma as a public health tool has been justified to combat tobacco industry promotions of tobacco (Ritchie, et al., 2010). However, a danger exists that deprived smokers may become further marginalised within society due to their smoking status. Therefore, a need exists to ensure that health promotion campaigns and tobacco control policies are sensitive to the psychological impact that anti smoking messages may have on smokers who may already occupy a marginalised position within society (Graham, 2012).

The Framework Convention of Tobacco Control (FCTC) has an important influence on UK tobacco control policy. The FCTC is a global public health treaty which outlines good practice in relation to tobacco control policy (WHO, 2003). The UK raitified the FCTC on the 16th June 2005 (DH, 2007a). The FCTC, the European Union and the World Bank have all developed guidance about the important components of tobacco control policies (European Commission, 2004; WHO, 2003, 2008a; World Bank, 1999, 2004). All agree that taxation, advertising restrictions, smoke-free policies, information and health promotion interventions and free cessation support are important components within tobacco control. Each of these components are discussed in turn. However, it is worth noting that in order to be most effective governments should introduce a comprehensive tobacco control strategy which encompasses all of these elements (WHO, 2003).

2.3.1 Taxation

Guidelines recommend that tax should be set between 66-80% of the price of a packet of cigarettes (World Bank, 1999). UK cigarette prices are the most expensive in Europe (HM Government, 2011a; Joossens & Raw, 2007; Montes, 2001) and tax comprises of 80% of the retail price of cigarettes (DH, 1998). However research estimated that despite the high levels of tax on cigarettes in the UK the average worker only needed to work for 40 minutes to afford a pack of 20 cigarettes (Guindon, Tobin, & Yach, 2002). This research suggests that there may be room for further tax increases. The UK

government has pledged to increase the price of cigarettes by 2% above inflation every year until 2014 (HMRC, 2011) in an attempt to reduce the affordability of cigarettes.

Evidence suggests that taxation is the most effective way to reduce demand for cigarettes. A 10% increase in the real price of cigarettes has been estimated to cause a 4% decrease in smoking prevalence rates in high income countries (World Bank, 1999). Research has shown that the most deprived smokers may be more responsive to tax increases and most likely to change their behaviour as a result of tax (Levy, Mumford, & Compton, 2006; Townsend, 1987). However, high tax increases may be regressive for the poorest smokers who do not change their behaviour and could result in further economic disadvantage (Remler, 2004). Therefore, it is important to provide smokers with free cessation support to ensure they have access to adequate resources to change their behaviour.

2.3.2 Advertising restrictions

The UK introduced a comprehensive advertising ban in 2002 which prohibited the advertising and promotion of tobacco (on TV, radio, print and billboards) (The Advertising and Promotions Act, 2002) (HM Government, 2002). The ban was later extended to include prohibition of brand sharing and internet advertising (DH, 2007b). It is estimated that this advertising ban would lead to a 2.5% decrease in smoking levels within the UK (DH, 2007b; The Scottish Parliament, 2001). However, as traditional advertising routes have been blocked to tobacco manufacturers, other routes of advertising such as, point of sale displays, product placement and packaging have become vital to the tobacco industry (Freeman, Chapman, & Rimmer, 2008; Hastings et al., 2008; Rooke, Cheeseman, Dockrell, Millward, & Sandford, 2010). Research has shown that point of sale advertising can increase tobacco consumption, undermine cessation attempts and promote smoking initiation amongst young people (Carter, Mills, & Donovan, 2009; Freeman, et al., 2008; Germain, McCarthy, & Wakefield, 2010; Hastings, et al., 2008; Lovato, Watts, & Stead, 2011; McNeill et al., 2011; Paynter & Edwards, 2009; Wakefield, Germain, & Henriksen, 2008). A point of sale advertising ban is currently in the process of being implemented within most of the UK (proposals are in place to implement a point of sale ban in Scotland) (ASH, 2012; HM Government, 2011a).

Many have called for the introduction of mandatory plain packaging of cigarettes to further prevent the marketing of tobacco (DH, 2008a; Freeman, et al., 2008; Goldberg, Liefeld, Madill, & Vredenburg, 1999; Wakefield, Germain, & Durkin, 2008). Plain packaging requires the removal of colours, brand imagery, logos and trademarks (Freeman, et al., 2008) so that cigarette packets are produced in generic way with standardised font, size colours and shapes. Plain packaging would ensure that health warnings would not be counteracted by brand information. Currently Australia is the only country to implement plain packaging (Australian Government, 2010, 2013). The UK government are exploring plain packaging as a potential policy option (HM Government, 2011a).

2.3.3 Smokefree policies

All of countries within the UK implemented smoke-free legislation between March 2006 and July 2007 (Northern Ireland, 2008; Smokefree England, 2007; The Scottish Government, 2008; Welsh Assembly, 2008). Smokefree legislation has been described as the best way to protect people from the harms of secondhand smoke (European Commission, 2004; WHO, 2008a). Many studies have shown that exposure to secondhand smoke decreases after the introduction of smokefree legislation (Bauld, 2011; Callinan, Clarke, Doherty, & Kelleher, 2010) and that smokefree legislation can impact positively upon health (Bauld, 2011; Semple et al., 2009). Furthermore, research has shown that hospital admissions for myocardial infarction reduced by 2.4% in England after the introduction of smokefree legislation (Sims, Maxwell, Bauld, & Gilmore, 2010). International research estimated that smokefree legislation is associated with decreases in smoking prevalence of up to 3.8% (Fichtenberg & Glantz, 2002). It is estimated that the introduction of the English smokefree legislation caused an extra 300,000 smokers to make a quit attempt (Hackshaw, McEwan, West, & Bauld, 2010) and there was a reported 23% increase in the utilisation of NHS cessation services (DH, 2008b). This suggests that although smokefree legislation primarily aimed to protect others from the harms of secondhand smoke it may have prompted individuals to change their behaviour.

2.3.4 Information and health promotion interventions

Guidelines recommend that health warnings should take up 50% of the main display

area on both sides of a cigarette packet (European Commission, 2004; WHO, 2008a). Pictorial warnings are recommended over text warnings (European Commission, 2004). The UK introduced pictorial warnings in August 2007 and was the first country in the EU to require mandatory pictorial warnings on all tobacco products (DH, 2009). An international study found that two thirds of smokers cited cigarette packages as their source of health information (Hammond, Fong, McNeill, Borland, & Cummings, 2006). This suggests that the current pictorial warnings used on cigarette packets in the UK may be effective in educating and aiding recall of health risks in smokers. It is worth noting that not everyone views smoking as a health issue but the government have a duty to ensure all smokers are aware of the risks associated with their behaviour.

Governments are advised to run anti-tobacco campaigns on a variety of topics that highlight the dangers of secondhand smoke, the economic impact of tobacco consumption, the benefits of smoking cessation and smoking prevention campaigns aimed at young people (WHO, 2008a). Research has shown that increased awareness of health effects can be created when mandatory health warnings are reinforced by mass media campaigns (Brennan, Durkin, Cotter, Harper, & Wakefield, 2011). Furthermore, mass-media campaigns have been associated with negative thoughts about smoking and an increase in quitting related attitudes and behaviours (Borland & Balmford, 2003). It has been estimated that long-term campaigns might reduce tobacco consumption by 11% (World Bank, 1999). However, mass media campaigns in the UK ceased in April 2010. This is worrying as research has illustrated that stopping media campaigns can reduce smokers motivations to stop smoking (Niederdeppe, Farrelly, Hersey, & Davis, 2008). However, the government is developing a three year marketing strategy which will use evidence based methods to discourage young people from smoking, educate individuals about the dangers of smoking and secondhand smoke, encourage individuals to make their homes smokefree and quit smoking.

One of the main strands of tobacco control in the UK is offering smoking cessation support as a policy option. The development of smoking cessation support is examined in depth within the next section. Furthermore, disadvantaged smoker's experiences of using cessation support are explored.

2.4 SMOKING CESSATION

Smoking cessation is a central component of the UK tobacco control strategy and therefore the main scope of this section is to explore the issues surrounding smoking cessation as a policy option. Firstly the benefits of smoking cessation are discussed then the features of nicotine addiction are outlined. Available treatment options to assist smokers in quitting smoking and the characteristics of the UK NHS stop smoking services are explored.

2.4.1 What are the benefits of quitting smoking?

Quitting smoking is associated with major health gains. Research has shown that individuals that quit smoking at the age of 60, 50, 40 or 30 could add three, six, nine or ten years of life expectancy onto their lives respectively (Doll, et al., 2004). Other research has shown that quitting smoking at age 30, 40, 50 and even 60 reduced the risk of developing lung cancer in men aged 75 (from 15.9%) to 1.7%, 3%, 6% and 9.9% respectively (Peto et al., 2000). Similar gains were also displayed in women with cessation at 60 and 50 years of age reducing the risk of developing lung cancer (from 9.5%) to 2.2% and 5.3% respectively (Peto, et al., 2000) Smoking cessation has also been labelled as the most effective way of preventing the development of COPD (Van der Meer, et al., 2008). In a study which examined the effect of smoking cessation on COPD, it was found that individuals that quit smoking experienced an average improvement of 2% in forced expiratory volume in one second (FEV1, a measure of pulmonary function) and after the first year of cessation the rate of decline in the lung function of quitters was half that of continuing smokers (Scanlon et al., 2000).

Health gains were also observed in relation to coronary heart disease. A meta-analysis of 20 studies investigated the benefits of smoking cessation to individuals who already suffered with coronary heart disease. The authors concluded that there was an average risk reduction of 36% to former smokers compared to continuing smokers if they quit smoking (Critchley & Capewell, 2003). This highlights that smoking cessation can benefit individuals even if they are already suffering from an illness. Other research showed that quitting smoking for two or more decades significantly reduced the risk of having a stroke in the future (Shinton, 1997). This research highlights the importance of encouraging individuals to quit smoking.

2.4.2 Tobacco dependence and nicotine addiction

Theories of tobacco dependence have hypothesized that tolerance (Perkins, 2002), positive and negative reinforcement (Baker, Piper, McCarthy, Majeskie, & Fiore, 2004; Stewart & Wise, 1992), opponent processes (Solomon & Corbit, 1974) and social learning theory (Marlatt & Gordon, 1985) are important components in maintaining tobacco use. Moreover, mechanisms of habits/automaticity, positive/negative affect, addiction, stimulation and psychosocial and sensorimotor manipulation have also been deemed to play an important role in tobacco use (Piper et al., 2004). However, research in this area has been criticised for not developing a clear definition or theory which encompasses the role that these different components play in the development or maintainance of tobacco dependence (Piper, et al., 2004). Furthermore, such theories often fail to account for individual differences such as SES and gender which can influence tobacco use (see Section 2.5). Nicotine is classified as an addictive substance (Benowitz, 2008; RCP, 2000) and addiction is often assumed to be the dominant influence in the maintainance of tobacco use. Therefore, this section outlines the key characteristics of nicotine addiction.

Nicotine is distilled from tobacco smoke into the airways and alveoli of the lungs and then is rapidly absorbed into the pulmonary venous circulation (Benowitz, 2008; RCP, 2000). It passes directly into the systemic arterial blood and is rapidly distributed throughout the body. It takes between 10–19 seconds for nicotine to reach the brain (Benowitz, 1996, 2008; RCP, 2000). The majority of smokers smoke more than one cigarette per day; this results in oscillations between peaks and troughs in plasma nicotine levels (RCP, 2000; Sohn, Hartley, Froelicher, & Benowitz, 2003; Zevin, Gourlay, & Benowitz, 1998). There is a huge amount of variability between smokers and their plasma nicotine levels (RCP, 2000; Sohn, et al., 2003; Zevin, et al., 1998). This is because smokers can manipulate their intake of nicotine through a variety of measures including puff volume, the number of puffs taken per cigarette, the intensity of puffing, depth of inhalation and the blocking of ventilation holes (Herning, Jones, Benowitz, & Mines, 1983; RCP, 2000; Sohn, et al., 2003; Zevin, et al., 1998). This is important as it means that smoking a higher number of cigarettes per day may not necessarily correspond to nicotine plasma levels or level of addiction. As the amount of nicotine received from a cigarette is variable, smokers can manipulate the dose of

nicotine they receive from a cigarette to achieve a desired effect (RCP, 2000; Sohn, et al., 2003; Zevin, et al., 1998). This ability to customize the level of nicotine received coupled with the rapid absorption of nicotine and the association with environmental cues creates a huge amount of behavioural reinforcement from smoking (Benowitz, 2008; RCP, 2000).

Withdrawal from nicotine is characterized by irritability, aggression, depression, anxiety, restlessness, poor concentration, increased appetite, urges to smoke, night time awakenings, decreased heart rate, and decreased adrenaline and cortisol levels (Benowitz, 2008; RCP, 2000). Most symptoms last for around four weeks with the exception of increased appetite and decreased heart rate (RCP, 2000). According to the DSM-1V and ICD-10 guidelines drugs are classified as addictive if individuals experience a strong desire to take the drug, use the substance in large amounts or for longer than intended, experience difficulty in controlling substance use, spend time obtaining, using or recovering from the effects of a substance, give a higher priority to drug use over other activities, continue to use the substance despite harmful consequences and experience tolerance and withdrawal (Benowitz, 2008; RCP, 2000).

The recognition of nicotine as an addictive substance has led to development of treatment options to assist smoking cessation. An estimated 67% of smokers say they want to quit smoking (The Information Centre, 2011d). However, some academics have criticized cessation support for unnecessarily medicalising tobacco use (Chapman & MacKenzie, 2010). It is estimated that between 2-5% of smokers who make a quit attempt each year use NHS cessation services compared to 19% of smokers that make an unaided quit attempt (West & Stapleton, 2008). There is an argument that as the majority of smokers make unassisted quit attempts tobacco control policy should empower smokers to quit smoking independently without formal support (Chapman & MacKenzie, 2010). However, research suggests that smokers who use cessation support and pharmacotherapy are four times more likely to successfully quit smoking compared to smokers who make unassisted quit attempts (Ferguson, Bauld, Chesterman, & Judge, 2005); therefore, using NHS cessation support could increase an individuals chances of successfully quitting smoking.

2.4.3 Guidelines on smoking cessation

Guidelines suggest that pharmacotherapy and smoking cessation treatment should be freely available to all through primary healthcare in a bid to reduce health inequalities (European Commission, 2004; WHO, 2008a; World Bank, 1999). Stop smoking services were originally set up in 26 areas which were labelled health action zones (HAZ) (Bauld, Coleman, Adams, Pound, & Ferguson, 2005; McNeill, et al., 2005). A HAZ is an area created by government to represent extreme deprivation and is used to target healthcare services in an attempt to reduce health inequalities (Barnes, 2005; McNeill, et al., 2005). Following the initial success of the stop smoking services, they were implemented nationally throughout England (McNeill, et al., 2005).

All countries in the UK offer cessation support which has been defined as *"including (singly or in combination) behavioural and pharmaceutical interventions such as brief advice and counselling, intensive support and administration of medications that contribute to reducing or overcoming tobacco dependence in individuals and the population as a whole"* (McNeill et al 2005, pg1). NHS stop smoking services offer three different types of pharmacotherapy (Nicotine Replacement Therapy (NRT), bupropion, varenicline) to aid smoking cessation (NHS, 2011; NICE, 2008). NRT comes in many different forms and can be used as a patch, tablet, lozenge, nasal spray, inhalator, gum or mouth spray. NRT is available in different strengths and can be tailored to an individual's level of addiction. NHS guidelines recommend that a combination of NRT products should be used (NHS, 2011) such as a nicotine patch which can provide a constant level of nicotine and another product to give a boost of nicotine when required.

There are three strands of smoking cessation support offered by healthcare professionals through the NHS. Brief interventions are opportunistic and can be provided by all health professionals. Brief intervention comprises of four parts, (asking about smoking status, giving advice, assisting with medications and arranging follow-up appointments where appropriate) (West, McNeill, & Raw, 2000). UK guidance stated that all GP's should opportunistically deliver brief interventions to smokers about quitting (West, et al., 2000). It is estimated that if a GP routinely delivered brief interventions to smokers this could lead to 1-3% of these smokers quitting for at least six months (Stead, Bergson, &

Lancaster, 2008). However, evidence has not favoured a specific health profession in terms of effectiveness of delivering cessation support (Raw, McNeill, & West, 1998). Brief advice given by nurses and pharmacists has been shown to be effective in aiding smokers to quit smoking, providing that smoking cessation was part of their job decription and they had received adequate training (Rice & Stead, 2008; Sinclair, Bond, & Stead, 2004; West, et al., 2000).

Specialist stop smoking support is offered through GP surgeries, pharmacies, and stop smoking services (McNeill, et al., 2005). Initial guidance recommended that specialist support should consist of NRT and group support with weekly meetings over a six week period; if appropriate 1-1 sessions should be provided (McNeill, et al., 2005). Smokers are able to self-refer to cessation services or they can be referred by a GP or other healthcare professionals (McNeill, et al., 2005).

Currently, no other country offers this level of professional cessation support (ASH, 2008). However, there are concerns about the future directions of services due to the changes in public health structure. The election of the coalition government resulted in changes to the NHS structure in particular the dismantling of PCT's (HM Government, 2010a). Under new rules local authorities will be in control of making public health decisions for local areas. Stop smoking services may become privatised and contracted out to external bodies such as social enterprises. This could result in variability in the cessation support received across the country.

2.4.4 Effectiveness of smoking cessation interventions and pharmacotherapy options

A Cochrane review found that all of the NRT products increased the chances of abstinence compared to placebos or non-NRT control groups (Stead, Perera, Bullen, Mant, & Lancaster, 2008). The effect of NRT was found regardless of the duration of treatment, intensity of additional support and setting in which NRT was provided (NHS, 2011; Stead, Perera, et al., 2008). Bupropion is an antidepressant which is offered as a stop smoking prescription only medication within the UK. A Cochrane review showed that bupropion was associated with long-term abstinence (RR 1.69 CI 1.53–1.85) (Hughes, Stead, & Lancaster, 2007). No research has compared the effectiveness of bupropion to NRT (NHS, 2011). However, some RCT's have found that bupropion is

associated with lower quit rates compared to varenicline (RR of 0.66, CI 0.53-0.82) (Hughes, et al., 2007). Varenicline is a nicotine receptor partial agonist that is available on prescription in the UK. It has been illustrated to be a highly effective stop smoking aid. The RR of abstinence at six months for varenicline compared to a placebo was 2.33 (CI 1.95–2.80). Varenicline has also been demonstrated to outperform NRT with regards to one year abstinence rates (RR 1.31, CI 1.01–1.71) (Cahill, Stead, & Lancaster, 2011).

The components of NHS cessation support have also been demonstrated to be effective. A Cochrane review illustrated that behavioural support provided by specialist advisors increased the likelihood of smokers being abstinent at 1 year compared to those who quit smoking without support (RR 1.39, CI 95% 1.24-1.57) (Lancaster & Stead, 2008). Furthermore, no differences were found between brief and intensive support in terms of quit rates indicating that even brief support can affect long-term cessation outcomes (Lancaster & Stead, 2008). Telephone support was also demonstrated to have a comparable effect on cessation to that of those receiving face to face behavioural support (RR 1.37, CI 95% 1.26 - 1.50) (Stead, Perera, & Lancaster, 2006). However, group support has been illustrated to be most effective in achieving four week outcomes (Judge, Bauld, Chesterman, & Ferguson, 2005; McEwen, West, & McRobbie, 2006).

In practice, NHS stop smoking services are effective at helping smokers to quit in both the short and long term. A systematic review examining the effectiveness of NHS stop smoking services found that 53% of smokers were CO validated as abstinent at four weeks and 15% were abstinent at 52 weeks (Bauld, Bell, McCullough, Richardson, & Greaves, 2010). The effectiveness of NHS cessation support has been illustrated by other studies which reported biochemically validated 52 week quit rates between 13 and 23% (Bell et al., 2006; Ferguson, et al., 2005) and quit rates at four weeks of 53% (Judge, et al., 2005). Although a significant number of smokers relapse the number of successful quitters is four times higher amongst those making a quit attempt with the stop smoking service than those making an unaided quit attempt (Ferguson, et al., 2005).

Evidence has shown that stop smoking services attract a higher percentage of women and smokers from disadvantaged areas (Bauld, et al., 2010; Chesterman, Judge, Bauld,

& Ferguson, 2005; The Information Centre, 2012). In a study of 19 (out of 95) health areas in England 32.3% of the service users lived in the most deprived neighbourhoods compared to 9.6% of service users who resided in the most affluent neighbourhoods (Chesterman, et al., 2005). Furthermore, 52% and 59% of service users accessing NHS cessation services in England and Scotland were female (ISD Scotland, 2010; The Information Centre, 2010). Despite the increased utilisation of these demographic groups, women and deprived smokers have been reported to have lower quit rates when using NHS cessation support (Bauld, et al., 2010; The Information Centre, 2011c); such data has led to calls for NHS cessation support to be tailored to meet the needs of different demographic groups (HM Government, 2011a; NHS, 2011).

A limited body of research has explored smoker's experiences of using NHS cessation services (May et al., 2009; Ritchie, Schulz, & Bryce, 2007; Roddy, Antoniak, Britton, Molyneux, & Lewis, 2006; Wiltshire, Bancroft, Parry, & Amos, 2003). Findings suggest that deprived smokers may have low awareness of available cessation options, and may prefer 'drop-in clinics' in non-medical settings (Pound, Coleman, Adams, Bauld, & Ferguson, 2005; Roddy, et al., 2006). However, despite women persistently being reported to have lower cessation outcomes compared to men when using NHS cessation support; no studies have specifically examined their experiences of using NHS stop smoking services. The final section of this Chapter explores what is known about women's experiences of using tobacco, quitting smoking and using cessation support.

2.5 WOMEN AND TOBACCO

Smoking is traditionally viewed as a male problem (Amos, 1996; Lopez, et al., 1994). This is because on a global scale more men than women smoke. In 2006 it was estimated that 40% of men smoked worldwide compared to only 9% of women (Samet & Yoon, 2010). However, whilst global male smoking prevalence rates are in decline, the global smoking prevalence rates of women will not peak until the middle of the 21st century (Mackay, 2001). It is estimated that 200 million women smoke globally (Mackay & Amos, 2003) and without innovative tobacco control policies this figure could treble to 532 million by 2025 (Mackay, 2001). Such an increase in smoking prevalence would result in an estimated 2.5 million female tobacco related annual

deaths by 2030 (Samet & Yoon, 2010). This would have catastrophic consequences for women and their families.

Within the UK, smoking prevalence rates amongst women peaked at 44% in 1966 (RCP, 2000). However, the decline in smoking prevalence has been faster in men than for women. Consequently, the gap in smoking prevalence has narrowed in England and Scotland (ONS, 2011b; The Scottish Government, 2011). Furthermore, in Northern Ireland no differences were reported between the smoking prevalence rates of men and women in 2010 (an estimated 24% of both sexes smoked) (DHSSPS, 2010). Moreover, in Wales in 2010 women had higher smoking prevalence rates compared to men (24% vs. 21%) (ONS, 2011b), suggesting that smoking may already be more prominent in women than men in some countries within the UK.

In terms of smoking initiation, more girls than boys appear to be regularly smoking within younger age groups. Latest figures estimated that 14% and 16% of 15 year old girls smoked (on a weekly basis) in England and Scotland compared to 10% and 14% of 15 year old boys (Scottish Public Health Observatory, 2010; The Information Centre, 2011b). Smoking was also more common amongst girls and women upto until age 25 (ONS, 2011b; Scottish Public Health Observatory, 2010; The Information Centre, 2011b), when the trend reverses and more men than women report smoking (ONS, 2011b). A concern exists that as smoking is becoming more common amongst girls, more women than men will eventually smoke within the UK. Therefore a need exists to explore ways of ensuring that the rate of decline in smoking prevalence remains equal so that inequalities are not created between men and women in relation to the tobacco epidemic.

Smoking cessation has been identified as an area where sex and gender differences exist. In particular women are often reported to be less successful at quitting smoking compared to men (Jarvis, 1994; Perkins, Donny, & Caggiula, 1999). However, research has suggested that such differences do not exist in the general population and only exist within clinical samples (Jarvis, Cohen, Delnevo, & Giovino, 2012; Vangeli, Stapleton, Smit, Borland, & West, 2011). However, women using NHS cessation support have been consistently reported as having lower quit rates compared to men (ISD Scotland, 2010, 2011; The Information Centre, 2005, 2007, 2008, 2009, 2010, 2011c, 2012).

Reasons for women's lower quit rates when using NHS cessation support remain unclear. One hypothesis is that differences in smoking cessation outcomes between men and women using formal cessation support can be explained by differences in age (Jarvis, et al., 2012). Age has been well documented to impact upon smoking cessation outcomes. National data collected by NHS stop smoking services in England between April 2010 and March 2011 found that 32% of individuals aged 18 years or under had quit smoking at four weeks compared to 56% of individuals aged over 60 (The Information Centre, 2011c). This finding was supported by research from the Smoking Toolkit Study which illustrated that an individual's age predicted their chances of cessation success. Adults aged over 65 were classified as having a high chance of success, individuals within the 25-64 age band were classified as having a medium chance of success and individuals within the 16–24 age bracket had the least chances of success (West et al., 2009).

Other research has suggested that sex and gender differences may exist which could explain the reduced cessation outcomes of women using NHS cessation support. Sex has been defined as *"the biological and physiological characteristics that define men and women"*, whereas gender *"refers to the socially constructed roles, behaviours, activities, and attributes that a given society considers appropriate for men and women"* (WHO, 2011b). Both sex and gender interact to influence multiple aspects of men and women's lives (Krieger, 2003; Macintyre & Hunt, 1997; Phillips, 2005). This section discusses what is known about how sex and gender could influence tobacco use in women.

2.5.1 The influence of sex in tobacco dependence and smoking cessation

Markers of addiction have been shown to predict smoking cessation outcomes in both men and women (Baker et al., 2007; Chandola, Head, & Bartley, 2004; Ferguson, et al., 2005; Heeley, 2008; Hyland et al., 2006; Judge, et al., 2005; Kozlowski, Porter, Orleans, Pope, & Heatherton, 1994; Osler & Prescott, 1998; West, McEwan, Bolling, & Owen, 2001). The physiological effects of nicotine generally appear to be similar between men and women. Tolerance is one of the main diagnostic features of nicotine dependence and is defined as a *"need for markedly increased amounts of a substance to achieve intoxication or desired effect or a markedly diminished effect with continued*

use of the same amount" (pg85) (RCP, 2000). Studies have found no differences between men and women with regards to tolerance to nicotine (Benowitz & Hatsukami, 1998). However, some potential sex differences do appear to exist in relation to nicotine regulation and discrimination. Compared to men, women have been found to self-administer less nicotine, be less able to regulate nicotine doses (after preloading of nicotine) and are potentially less able to discriminate between nicotine and placebos (Perkins, 1996, 1999, 2001; Perkins, et al., 1999; Perkins et al., 2001).

Other research has highlighted a potential relationship between sex hormones and tobacco dependence. In particular, it has been suggested that women who use oral contraceptives may metabolise nicotine at a substantially higher rate compared to men and women who are not using oral contraceptives (Benowitz, Lessov-Schlaggar, Swan, & Jacob, 2006). Having a higher metabolic rate has generally been assumed to be associated with increased tobacco dependency (Benowitz, Hukkanen, & Jacob, 2009). It has therefore been argued that women using oral contraceptives may find it harder to quit smoking and could benefit from higher doses of NRT (Benowitz, et al., 2006).

The phase of a woman's menstrual cycle has also been implicated as playing a role in the smoking behaviour of women (Allen, Allen, Widenmier, & al'Absi, 2009; Allen, Allen, Lunos, & Hatsukami, 2009; Allen, Allen, & Pomerleau, 2009; Allen, Hatsukami, Christianson, & Nelson, 1999; Carpenter, Upadhyaya, LaRowe, Saladin, & Brady, 2006; Craig, Parrott, & Coomber, 1992; Perkins et al., 2000). Evidence suggests that the late luteal phase of the cycle is associated with an increased desire to smoke and higher levels of depression, anger, anxiety, appetite and withdrawal and decreased concentration (Allen, Allen, & Pomerleau, 2009; Allen, Hatsukami, Christianson, & Nelson, 1999; Craig, Parrott, & Coomber, 1992; Perkins, et al., 2000). Furthermore, a review of the effects of the menstrual cycle on smoking cessation implied that women who attempt to quit smoking in the luteal phase may experience heavier nicotine withdrawal when quitting smoking which might impact on cessation outcomes (Carpenter, et al., 2006). However other research has indicated that the follicular phase of the menstrual cycle is associated with increased cravings and increased likelihood of relapse compared to the luteal phase of the menstrual cycle (Allen, Allen, Widenmier, et

al., 2009; Allen, Allen, Lunos, et al., 2009). Therefore, further research is required to ascertain the role that the menstrual cycle has on the smoking behaviour of women.

Despite the apparent interaction between sex hormones and nicotine; it has been argued that women may be more likely than men to smoke for non-nicotine factors such as the sensory effects of smoke inhalation, conditioned responses to smoking such as social reinforcement (Perkins, 1996). Research has shown that the presence of smoking related cues increased cigarette cravings in women but not men (Field & Duka, 2004). Moreover, in a study where abstinent smokers were allowed to smoke cigarettes with olfactory and visual stimuli blocked (they wore eyemasks and pegs on their noses); women took significantly fewer puffs compared to men for whom the blocking of stimuli did not appear to impact upon their behaviour (Perkins, et al., 2001). Such research has led to the argument that non-nicotine stimuli (or 'cues' associated with smoking) may be important in regulating the smoking behaviour of women (Perkins, 1996, 2001; Perkins, Grobe, Stiller, Fonte, & Goettler, 1992).

This hypothesis has been supported by other research which has indicated that NRT might not be as effective in helping women to quit smoking as it is for men (Killen, Fortmann, Newman, & Varady, 1990; Perkins & Scott, 2008; West et al., 2001). Other forms of pharmacotherapy such as bupropion and varenicline appear to be equally effective for men and women (Gonzales et al., 2006; Scharf & Schiffman, 2004). Whereas, evidence has highlighted that women using NRT achieve abstinence at a marginally better rate than if they were using a placebo (Killen, et al., 1990; Perkins & Scott, 2008). Such evidence has been used to suggest that NRT is not fully meeting women's needs as smoking related cues rather than addiction may be more important to women and therefore NRT might not be fully meeting women's needs. Further support for this assertion comes from a study by West Hajek et al (2001) who examined the effect of different NRT products and cessation outcomes in men and women. The researchers found that men had increased abstinence rates compared to women when using a nicotine patch, gum and nasal spray. However, a total of 28% of women who used the inhalator were abstinent at 15 weeks compared to 12% of men (West, Hajek, et al., 2001). This sex difference is potentially explained by the inhalator addressing more smoking-related cues.

This section has illustrated how sex may impact upon tobacco dependency. However, existing theories of tobacco dependence (outlined in section 2.4.2) do not account for such sex differences (Richardson et al., 2007). Therefore, further research should seek to determine the exact role that nicotine and non-nicotine stimuli have in maintaining the smoking behaviour of women and a unified theory of tobacco dependency which accounts for sex (and gender) should be developed to account for potential differences which might exist between men and women.

2.5.2 The influence of gender on tobacco use and smoking cessation

This section explores how gender might influence the smoking behaviour of women. Firstly the influence of society's definitions of whether tobacco use is deemed an appropriate behaviour for women to engage in is discussed and secondly the influence of factors that mediate a women's social position such as parenting and partnership choices on tobacco use are also explored.

Gender influences the types of behaviours that are performed by men and women (Saltonstall, 1993). West and Zimmerman (1987) conceptualised gender as an *"achieved status ... which is constructed through psychological, cultural and social means"* (pg125). In their theory *"doing gender"* they postulated that men and women generally perform behaviour that is considered acceptable for their sex (West & Zimmerman, 1987). Such a theory is helpful in understanding the rise of smoking behaviour in women.

Traditionally the use of tobacco was perceived as unacceptable for women in the UK (Amos & Haglund, 2000). This belief was something that the tobacco industry recognised and deliberately tried to change. Tobacco use was (and still is in some countries) marketed by the tobacco industry as a form of liberation and freedom for women (Amos & Haglund, 2000; Samet & Yoon, 2010; USDHHS, 2001). Such tactics in the UK contributed to a change in socities perceptions about the acceptability of women smoking. This change in viewpoint resulted in a rise of smoking prevalence amongst women.

The experience of disadvantage is closely linked to tobacco use (Dorsett, 1999; Graham, 1998; Graham & Der, 1999; Hiscock, Bauld, Amos, & Platt, 2012; Hiscock, Judge, &

Bauld, 2010; Huisman, Kunst, & Machenbach, 2005; Jarvis & Wardle, 2006; Jefferis, Graham, Manor, & Power, 2003; Jefferis, Power, Graham, & Manor, 2004; Kotz & West, 2009; ONS, 2011b; Schaap et al., 2009; Wetter et al., 2005). Individuals that are; less likely to be in employment, less likely to be educated, more likely to be in debt and live in poor housing in areas of disadvantage are most likely to smoke (Graham & Hunt, 1994; Laaksonen, Rahkonen, Karvonen, & Lahelma, 2005; Lim, Chung, Kim, & Lee, 2010; Tseng, Yeatts, Millikan, & Newman, 2001). This is unsurprising as the effect of social position on health and health behaviours has been well-documented (Graham & Kelly, 2004; Jarvis & Wardle, 2006; Macintyre, 1986; Marmot et al., 2010; Marmot & Wilkinson, 2006). Theories suggest that social structures such as educational systems and the labour market shape an individual's social position (Graham, 2007; Graham & Kelly, 2004). Furthermore, an individual's social position is affected by other moderating factors such as socioeconomic status, gender, ethnicity and sexuality (Graham & Kelly, 2004). These factors interact to influence the behaviours that individuals perform.

Despite much rapid social change over the course of the 20th century, women still occupy a different social space compared to men (Annandale, 2009; Annandale & Hunt, 2000; Breitenbach & Wasoff, 2007; ONS, 2011a; Popay, 1993). Women are less likely than men to have senior job roles (Breitenbach & Wasoff, 2007; ONS, 2011a) and are more likely to be employed in part-time work which is often associated with a lower incomes (Bardasi & Gornick, 2000; Breitenbach & Wasoff, 2007; ONS, 2011a). Such patterns are likely to reflect the increased rates of women having a caring role or being involved in domestic work (ONS, 2010a). It is this differential social positioning of women compared to men that may impact upon women's use of tobacco.

Research has suggested that different measures of SES which capture a woman's partnership and parenting choices may be more appropriate reflections of a woman's social position (Graham, 2007). Early motherhood and being a lone parent have been consistently associated with lower levels of income, educational achievement and workforce participation and increased welfare dependence in women (Boden, Fergusson, & Horwood, 2008; ONS, 2009) Moreover, a wealth of evidence has documented that early motherhood and being a lone parent has been associated with

poorer self-reported psychological and physical health (Benzeval, 1998; Boden, et al., 2008; Burstrom et al., 2010; Hope, Rodgers, & Power, 1999; Khlat, Sermet, & Le Pape, 2000; Lahelma, Arber, Kivela, & Roos, 2002; Lipman, Offord, & Boyle, 1997; Macran, Clarke, & Joshi, 1996; McMunn, Bartley, Hardy, & Kuh, 2006; Suhrcke, Paz Nieves, Otana, & Coutts, 2009; Targosz et al., 2003; Weitoft, Haglund, Hjern, & Rosen, 2002; Whitehead, Burstrom, & Diderichsen, 2000). However, it is the experience of deprivation that increases a woman's likelihood of early motherhood and being a lone parent (Graham, 2007; Graham, Inskip, Francis, & Harman, 2006; Harman, Graham, Francis, & Inskip, 2006; Lee & Gramotnev, 2006; Singh, Darroch, & Frost, 2001). Consequently early and lone motherhood can be viewed as a response to deprivation.

Research has highlighted that early motherhood increases the odds of smoking and reduces the odds of smoking cessation. Furthermore, early motherhood has more of an influence on female smoking behaviour than childhood circumstances, educational pathways and adult socioeconomic circumstances (Graham, Francis, Inskip, & Harman, 2006; Jefferis, et al., 2004). Women who have their first child before the age of 20 are 71% more likely to be a smoker than women who have their first child after the age of 25 (Graham, Francis, et al., 2006). Other factors such as not living with a partner and being a lone mother increased the odds of smoking by 22% and 93% respectively (Graham, Francis, et al., 2006). Therefore when considering the influences that affect smoking behaviour it is important to take into account a woman's partnership and parenting choices which profoundly impact upon their lifecourse trajectory.

Qualitative interviews in Edinburgh illustrated that many similarities do exist between men and women in terms of the strategies used to regulate smoking behaviour (e.g. anticipatory smoking) (Bancroft, Wiltshire, Parry, & Amos, 2003). However, women may be more likely than men to hold positive beliefs and expectations about smoking and anticipate negative consequences of smoking cessation such as weight gain, increases in negative emotions, reduced concentration, social ostracism and loss of enjoyment (McKee, O'Malley, Salovey, Krishnan-Sarin, & Mazure, 2005). Believing that smoking cessation would have such negative consequences was associated with reduced motivation to quit and lower smoking cessation outcomes (McKee, et al., 2005).

It has been suggested that the reasons for smoking may differ between men and women. In particular, it has been suggested that women are more likely than men to smoke for relaxation, stimulation or social reasons or to use smoking as a coping strategy to cope with stress or negative affect (Benowitz & Hatsukami, 1998; Berlin et al., 2003; Graham, 1993; Stewart et al., 1996). Living with an increased number of children in a household has also been associated with increased odds of being a smoker amongst women (Chandola, et al., 2004). Moreover, many qualitative studies have reported that women smoke as a consequence of domestic and caring responsibilities (Bancroft, et al., 2003; Graham, 1993; Stewart, et al., 1996). However, this finding could be a reflection of the different social spaces that men and women occupy rather than reflecting motivational differences.

Factors such as neighbourhood deprivation, employment status, educational attainment, housing tenure, single parent status and early motherhood have all been associated with reduced cessation outcomes in women (Barbeau, Krieger, & Soobader, 2004; Bauld, 2011; Chandola, et al., 2004; Ferguson, et al., 2005; Graham, Inskip, et al., 2006; Heeley, 2008; Hiscock, et al., 2012; Hiscock, et al., 2010; Judge, et al., 2005; Laaksonen, et al., 2005; Osler & Prescott, 1998; Siahpush, 2004; Siahpush, Borland, & Scollo, 2002; Siahpush, McNeill, Borland, & Fong, 2006). Greaves and Jategaonkar (2006) explained that it is vital to understand that *"tobacco use is both a response to and a feature of social and economic inequality and marginalisation and may bring solace and pleasure to lives where there may be little"* pg63, (Greaves & Jategaonkar, 2006). Women living in extreme disadvantage may experience a daily struggle to survive and therefore, the long-term benefits of smoking cessation may have little relevance to women if they are focused on coping with their present circumstances (Stewart, et al., 1996).

Stress has been demonstrated to be important factor in terms of smoking cessation outcomes (Crittenden, Manfredi, Cho, & Dolecek, 2007; Ng & Jeffery, 2003) and has been identified to affect the number of cigarettes smoked, and the level of self-efficacy to quit smoking or perceived ability to refrain from smoking in stressful situations. Furthermore, women that smoked to control stress had lower levels of education and used smoking as a strategy to control negative emotions (Crittenden, et al., 2007).

Furthermore, qualitative research by Hilary Graham highlighted that smoking was a central strategy which assisted women in fulfilling caring roles by providing them with opportunities to take breaks from their responsibilities (Graham, 1987, 1993). Women reported that smoking allowed them to create personal space and perform an activity for themselves which helped to re-establish their ability to cope when things were stressful (Graham, 1987). Furthermore, research has also identified that smoking was also used by women as a strategy to cope with fear, anxiety and anger (Greaves, 1996; Reig-Ferrer & Cepeda-Benito, 2007; Stewart, et al., 1996).

However, smoking may have more significance for women than just allowing them to cope with stress. Lorraine Greaves (1996) argued that

> *"smoking may be an important means through which women control and adapt to both internal and external realities. It mediates between the world of emotions and outside circumstances. It is both a means of reacting to and/or acting upon social reality, and a significant route to self-definition"* (Pg107).

Greaves argues that smoking may be a tool that enables women to organise and control social relationships. One example given is of a woman whose partner was regularly violent towards her. This woman used cigarettes to diffuse violence as her partner would not hit her if she was smoking (Greaves, 1996). Therefore, it could be argued that smoking may be viewed by some women as a source of support and predictability (which allows them to create order within their lives). Furthermore smoking may be a constant within the women's lives which they may feel they have the power to control (Greaves, 1996).

It has also been reported that women use smoking as a strategy to control their weight (Perkins, Levine, Marcus, & Shiffman, 1997; Pirie, Murray, & Leupker, 1991; Reig-Ferrer & Cepeda-Benito, 2007; Ward, Klesges, Zbikowski, Bliss, & Garvey, 1997). Being a weight control smoker was determined by anticipation of weight gain following a cessation attempt, having a high level of dietary restraint, being of a younger age, being more dependent on nicotine, gaining more weight in previous quit attempts, and having a low level of self-efficacy to manage weight in negative affect situations (i.e. when depressed or anxious), (Pinto et al., 1999). Concerns about weight gain have been

found to be related to poorer cessation outcomes in women (French & Jeffery, 1995; Jeffery, Hennrikus, Lando, Murrey, & Liu, 2000; Pirie, et al., 1991). This has been supported by other research which found that smoking for weight control reasons independently predicted smoking and intention to continue smoking (Weekley, Klesges, & Reylea, 1992). Many cessation programmes incorporate a weight concerns reduction approach into their treatment (Ussher et al., 2008). However, there has been some debate about the effectiveness of a weight control component within smoking cessation services and some research suggests that weight control may not improve abstinence (Pirie et al., 1992).

2.5.3 Women and smoking cessation support

The need for gender specific tobacco control strategies was highlighted by the FCTC (WHO, 2003). However, currently there is a lack of understanding about how to incorporate gender into tobacco control policies (Greaves, Jategaonkar, et al., 2006; Greaves, Vallone, et al., 2006; INWAT Europe, 1999). Health promotion frameworks rarely consider gender (Gelb, Pederson, & Greaves, 2012). Feminist intersectionality theories stress the importance of health promotion frameworks accounting for the ways that social structures interact with gender, ethnicity, age and socioeconomic status to influence health outcomes (Pederson et al., 2010). It has been argued that countries in the later stages of the tobacco epidemic (such as the UK) should focus their efforts on developing culturally relevant cessation programmes for women (Greaves, Jategaonkar, et al., 2006). Gender will undoubtedly have an influence upon smoking cessation; however, it is also important to consider the impact that sex may have on cessation outcomes. The previous section highlighted that many biological factors such as hormones and a woman's menstrual cycle may influence tobacco dependence and therefore to be most effective for women, cessation support should consider the implications of such findings. However, smoking cessation support is rarely tailored to meet the needs of specific population groups (Lancaster & Stead, 2002).

A Canadian study explored low income women's cessation support needs and intervention preferences (Stewart et al., 2011). Women expressed a preference for group or buddy support. However, many barriers existed for low income women when quitting smoking and recommendations centred around providing free

pharmacotherapy, childcare options and promoting the importance of self-care (e.g. making time for oneself, exercising regularly and eating healthily) (Stewart, et al., 2011).

Some research has examined the effectiveness of tailoring cessation support for low income women. A smoking cessation intervention which was developed to help African-American women to quit smoking achieved smoking abstinence rates of 27.5% at 6 months compared to the control group which achieved rates of 5.7% (Andrews, Felton, Wewers, Waller, & Tingen, 2007). The intervention consisted of NRT, counselling which aimed to empower the women and support from a community worker. Social support predicted abstinence from smoking but self efficacy mediated 6 month smoking cessation outcomes. Such findings suggest empowering women to feel confident about quitting and providing social support may be crucial at helping deprived women to stop smoking. This finding was supported by another intervention which found that social support and treating women holistically and providing individual cessation support promoted cessation success amongst low income women (Stewart et al., 2010). In contrast a study which provided women with free nicotine patches and proactive telephone support was associated with short but not long-term smoking cessation outcomes (Solomon, Scharoun, Flynn, Secker-Walker, & Sepinwall, 2000). The authors suggested that intervention lacked peer support which could have improved cessation outcomes.

A meta-analysis showed that behavioural support (rather than pharmacotherapy) appeared to be most important to women when quitting smoking (Cepeda-Benito, Reynoso, & Erath, 2004). Despite this finding few guidelines exist about how behavioural support could be best tailored to meet the needs of deprived women. A systematic review explored the effectiveness of tailoring smoking cessation support to meet women's needs by including components to help women deal with weight, negative affect, non-nicotine cues and also matching support to specific phases of the menstrual cycle (Torchalla et al., 2012). The review showed that with the exception of the weight control component there was little evidence for the effectiveness of the other gender specific strategies in promoting smoking cessation.

Despite women achieving consistently lower cessation outcomes when using NHS cessation services; there has been a lack of research exploring women's experiences of using NHS stop smoking services. Moreover, despite evidence suggesting that gender and sex might influence the cessation outcomes of women, support is delivered in the same way to men and women. Therefore, a perceived need exists to explore the factors that impact on women's cessation outcomes and to understand their experiences of quitting smoking when using NHS support. Therefore the aim of this research is to *develop understanding about the factors that affect women's cessation outcomes and to explore disadvantaged women's experiences of smoking cessation and NHS cessation support.* It is hoped that the research will lead to the development of recommendations about how NHS cessation support could be improved to meet women's needs. The methodology associated with the research is described in Chapter 3.

CHAPTER THREE: METHODOLOGY

3.1 INTRODUCTION

This chapter outlines the research questions and methodology of the thesis. The specific research methods and data analysis techniques used are also described. In the final section of this Chapter, the limitations associated with the research are discussed.

3.2 RESEARCH DESIGN

The main aim of the research was to understand the factors that affect women's cessation outcomes and to explore disadvantaged women's experiences of smoking cessation and of using NHS cessation support. A mixed methods approach was chosen to fulfil this research aim. Mixed methodology has been defined as *"the use of qualitative and quantitative techniques together in either parallel or sequential phases"* (Adamson, 2005, pg 230). The use of 'mixed methods' in research has become more widespread in recent years and is now considered by many to represent a 'third research paradigm' (Burke Johnson & Onwuegbuzie, 2004; Creswell, 2003; Denscombe, 2008; Tashakkori & Teddlie, 2003). Although some methodological purists still argue that it is unsuitable to mix the positivist viewpoints of the quantitative research paradigm, and the constructionist viewpoints of the qualitative research paradigm due to epistemological and ontological incompatibilities (Burke Johnson & Onwuegbuzie, 2004; McEvoy & Richards, 2006); many researchers now adopt a pragmatic standpoint whereby the mixing of methodologies is often seen as complementary and in some cases beneficial. Furthermore, the mixing of methods may combat inherent weaknesses associated with the other research methods design which can strengthen the interpretations that can be made about the data (Tashakkori & Teddlie, 2003).

This was the case for this research project. The use of a mixed methods research design allowed a quantitative exploration of the factors that affected the smoking cessation outcomes of women at a population level. In contrast the qualitative aspects of the research gave a deep individual insight into women's lived experiences of smoking cessation. Such information will be useful in highlighting how NHS cessation services might be tailored or improved for women which could improve their quit rates. The use of a mixed methods research design allowed knowledge to be obtained *"about the issue*

of the study which is broader than a single approach" allowed (pg40) (Flick, 2006). The research generated both population and individual level data and had both a broad and narrow focus of the research area.

A critical realist approach was adopted by the researcher. This approach sits comfortably with both quantitative and qualitative research paradigms and therefore did not limit the use of either research methods. Critical realists endorse the belief that three different ontological domains exist; the empirical, the actual and the real (McEvoy & Richards, 2006). The empirical domain is explained as the *"aspects of reality that can be experienced either directly or indirectly"*; the actual domain is described as the *"aspects of reality that occur, but may not necessarily be experienced"* and the real domain is defined as *"deep structures and mechanisms that generate phenomena"* (McEvoy & Richards, 2006, pg69). Critical realists believe that method choices should be influenced by research questions and that mixed methods are often more effective as they allow different combinations of data to be obtained, which can strengthen one's understanding of a phenomenon by allowing problems to be considered from different angles.

Pragmatism is generally viewed as the underlying epistemology or philosophy associated with using a mixed methods approach (Denscombe, 2008). A pragmatic standpoint was adopted by the researcher in the design of this research. Pragmatism rejects the notion that research should be driven by 'top-down' ontological assumptions (Morgan, 2007). Instead pragmatists believe that a 'bottom-up' approach should be taken whereby research questions drive the research process and dictate the appropriate methodology (Adamson, 2005). The driving force behind the research was the call from international policy (WHO, 2003) for a gendered lens to be applied to policy initiatives. Within the UK women have been consistently reported to have lower cessation outcomes compared to men when using NHS cessation support compared to men (The Information Centre, 2005, 2006, 2007, 2008, 2009, 2010, 2011c, 2012). Therefore a need was identified to examine the factors that influence smoking cessation outcomes amongst women using NHS cessation support. Furthermore, a need was identified to explore women's experiences of NHS cessation support to examine whether cessation services are meeting women's needs. The research will be an important step in

identifying potential areas of improvement which might help to improve the quit rates of women using NHS cessation support.

The research had the following research questions:

1. Are women less successful than men at quitting smoking using NHS support?
2. Do sex differences exist in smoking behaviour and access to NHS cessation services?
3. What are the determinants of smoking cessation success in women using NHS cessation services?
4. What role does disadvantage play in smoking cessation in women who use NHS support?
5. What are women's experiences of smoking and addiction?
6. What are women's attitudes towards and experiences of smoking cessation?
7. What are women's experiences of using NHS stop smoking services?
8. What are women's experiences of using pharmacotherapy?
9. What improvements do women feel could be made to the NHS stop smoking services to make them more effective for disadvantaged women?

Questions 1 to 4 are addressed by a quantitative research study and questions 5-9 are explored within a qualitative investigation. The research used a sequential mixed methods research design whereby the quantitative and qualitative research was conducted in distinct and separate phases. The quantitative investigation was conducted first followed by the qualitative investigation. Integration is a key issue for mixed methods research (Flick, 2006) and within this investigation the quantitative research was not designed to explicitly influence the qualitative study (as it had its own research questions and focus). However, factors that emerged as important in the quantitative research were explored in depth within the qualitative study.

3.3 RESEARCH METHODS

The research methods used within the quantitative and qualitative investigations are now outlined.

3.3.1 Quantitative methods

Three existing datasets containing information about the service users of North Cumbria, Nottingham and Glasgow NHS stop smoking services were available to the researcher through one of the research supervisors. These datasets were compiled as part of two externally funded NHS evaluations. Further information about these datasets can be found in publications from the original studies (Bauld et al., 2009; Bauld, Chesterman, Ferguson, & Judge, 2009; Ferguson, et al., 2005; Hiscock, et al., 2010; Judge, et al., 2005).

A major consideration when deciding to use secondary data is its relevance. The North Cumbria and Nottingham datasets (circa 2001/03) and the Glasgow datasets (circa 2007) are ageing. It is possible to question the relevance of any findings from these datasets; particularly the findings of North Cumbria and Nottingham where data were collected in a different social landscape when tobacco control policies were weaker and fewer regulations existed to control smoking behaviour (such as smokefree legislation). Research councils recommend that it is good practice for researchers to explore existing resources before collecting more data and recreating what already exists (ESDS, 2012). As there is limited understanding about the factors that affect smoking cessation outcomes of women using NHS cessation support; a decision was made to analyse this dataset. It was felt that this research (although based on older data) would be important in identifying worthy areas of future research and extending understanding about the factors that influence cessation outcomes in women.

Before deciding to use secondary data it is important to assess the completeness (whether missing data exists) and correctness (whether it is representative of the population it applies to) of a dataset to assess its quality (Gray-Weiskopf & Weng, in press). Missing value analysis was conducted to explore the completeness of the datasets. All variables (except reason for smoking) had low levels of missing data (under 5%). Furthermore, EM (expectation maximization) analysis indicated that missing data was MAR (missing at random) and therefore should not affect the outcome of the analysis.

To determine the correctness of a dataset, a comparison should be made to a gold standard sample (Gray-Weiskopf & Weng, in press; Sorensen, Sabroe, & Olsen, 1996).

This will allow interpretations to be made about the representativeness of the data. However, no known gold standard dataset exists in relation to the representativeness of this local stop smoking service data. National data is available about service user demographics and cessation outcomes. These datasets shared some similarities with national statistics. More women accessed all services and clients using Glasgow services appeared similar in terms of demographics to clients accessing Scottish services (ISD Scotland, 2011; The Information Centre, 2012). However, clients in North Cumbria and Nottingham appeared to be slightly older compared to English statistics and quit rates were higher in all samples compared to national quit rates (ISD Scotland, 2011; The Information Centre, 2012). There is no reason to believe that data are not representative of the clients accessing each service. However, as data were only collected from two cessation services in England (none in the south of England) and only Glasgow in Scotland; further research is required to ascertain whether findings are representative and generalizable to wider populations. Consequently, the research should be viewed as exploratory.

3.3.2 Qualitative methods

The focus of this study was to examine women's experiences of smoking cessation and of using NHS cessation services. An attempt was made to recruit women who may have had different experiences of using cessation support. Therefore service users (i.e. women who had successfully and unsuccessfully quit smoking) and lost to follow up clients (i.e. women who dropped out of cessation services) were recruited for the research study. A small sample of non-service users were also recruited to explore the barriers that might prevent women from accessing NHS cessation support. The research methods, research sites, sampling strategy, research materials, ethical issues, participant details and the procedure of the qualitative investigation are now described.

i) Research methods

Semi-structured interviews were chosen as the main research method within the qualitative investigation as they allowed the researcher to gain a unique insight into women's experiences and perceptions of the world. Semi-structured interviews offered a degree of flexibility that allowed interviews to be guided by the interests of the researcher whilst still being driven by issues raised by the interviewees (Carter &

Henderson, 2005). In-depth interviews have been argued to be most suitable when seeking to understand individual experiences, as they allow a deep individual focus whilst giving the researcher an opportunity to clarify issues and explore points of interest in greater detail (Lewis, 2003). A total of 25 semi-structured interviews were conducted with service users, lost to follow up clients and non-service users.

Unlike interviews, focus groups do not concentrate on individual experiences but instead explore opinions within a group situation. Focus groups offer the opportunity for group interaction which allows individuals the opportunity to reflect and refine their views after engaging in a group discussion (Ritchie & Lewis, 2003). Focus groups give researchers the opportunity to replicate the social and cultural contexts in which decisions and opinions are often formed (Barbour, 2007; Carter & Henderson, 2005; Flick, 2006). Moreover, focus groups have the advantage that data can be collected from a number of individuals at the same time which has associated cost advantages (Barbour, 2007).

Focus groups are often used as a way of accessing the opinions of 'hard to reach or marginalised groups' (Barbour, 2007). The reason for this is that the group situation may reduce power imbalances that may exist between the researcher and participants. Smokers may feel marginalised or stigmatised in society (Bell, McCullough, Salmon, & Bell, 2010; Bell, Salmon, et al., 2010) and therefore may feel pressure to express certain opinions about their smoking status or aspirations to use cessation services. Non-service users may feel more pressure in an interview situation to justify why they did not access NHS support. Therefore, focus groups were chosen as the method to collect data from non-service users about their perceptions of NHS cessation services. However, considerable difficulty was experienced recruiting participants that were able to attend a focus group. As a consequence of this only one focus group was conducted. Focus groups and interviews do not represent interchangeable research methods but in this instance a decision was made to interview two non-service users who wanted to take part in the research.

ii) Research sites

The qualitative research was conducted in two locations within England. This decision was made partially to prevent service bias, i.e. if the research was conducted in one

location, findings could be due to certain features of that service or because of specific characteristics of the local population. Furthermore, interviewing women from two diverse geographical areas (with different socioeconomic profiles) allowed a wider range of views and experiences to be sampled. The two research sites within this study were Bath and Dudley. Both cessation services offered a variety of stop smoking support options such as group, 1-1, telephone and specialist support.

A main aim of the research was to gain insight into disadvantaged women's experiences of smoking cessation. Bath is not typically viewed as a deprived area (with an average rank of 247 out of 326 local authorities within England on the Index of Multiple Deprivation - IMD) (Communities and local government, 2011); however, pockets of deprivation do exist. Dudley in contrast represents a more deprived area compared to Bath (and has an average rank of 104 on the IMD compared to 247) (Communities and local government, 2011). Recruitment in both areas focussed on individuals who resided in the most deprived quintiles on the IMD (quintile 5). The IMD is a composite measure which rates areas on six measures of deprivation (Adams & White, 2006; HM Government, 2011b). Scores are combined and weighted to produce a total score between one and five. Scores of five illustrate that an area is considered to be within the 20% most deprived areas within England (BANES, 2010). Such information is used locally by services in an attempt to reduce inequalities.

iii) Participant details and sampling strategy

The sampling strategy used within the qualitative study was purposive; participants were selected based on characteristics of interest (Carter & Henderson, 2005) (i.e. that they were service users or lost to follow up clients of the stop smoking service or were non-service users within the local area). Service users were defined as clients that had used cessation services for a least a month within the previous year. Clients were categorized as lost to follow up if they unexpectedly failed to return to services despite three follow up attempts and non-service users were defined as women that had no previous contact with specialist stop smoking services (excluding contact with GPs or over the counter medications bought from a pharmacy). Furthermore, non-service users had to have made at least one previous cessation attempt in order to be able to discuss

their experiences of smoking cessation and their decision not to use NHS cessation support.

Service users and lost to follow up clients were recruited using local stop smoking service data. Records were screened and clients were identified as eligible if they were female, aged over 16, not pregnant and lived in the 20% most deprived quintile on the IMD (as assessed by postcode data). Local stop smoking service data categorizes service users according to cessation outcome and service use (i.e. they are coded as quitters, non – quitters or lost to follow up). In an attempt to ensure a mix of clients took part in the research an equal number of letters were posted to women in each category. Recruitment was organised in Bath by the researcher. However, Dudley PCT sent out their own study invitations, but were extensively briefed on the inclusion criteria of the study. Copies of the invitation letters used in Bath and Dudley are displayed in Appendix 1. Non-service users were recruited from local communities in each area. Information about the study was placed on the University of Bath website and advertisements were also placed on the 'Gumtree' website and in a local newspaper the *'Bath Chronicle'* (a copy of the advertisement is in Appendix 2). Considerable difficulty was experienced recruiting lost to follow up clients and non-service users, therefore a decision was made to recruit women in these groups regardless of their deprivation quintile.

A total of 23 interviews were conducted with service users (n= 18; 12 Bath, 6 Dudley) and lost to follow up clients (n= 5; 2 Bath, 3 Dudley). One focus group (n=5; Bath) and two interviews (1 Bath and 1 Dudley) were conducted with non-service users. A smaller sample existed in Dudley because a previous research site dropped out of the research (due to NHS structural changes). Dudley was chosen as a replacement research site but the delay caused by the change meant that recruitment in Dudley started much later than in Bath.

Table 1 contains information about participant demographics. Participant ages ranged from 28 to 71 years. The average age of participants was 46 years old (std dev 11.87) and the majority of participants were of a White British ethnic origin, (only two women were of a Black Caribbean ethnic origin). All of the service users and four of the five lost to follow up interviewees resided within the most deprived quintile on the IMD.

Only one lost to follow up interviewee resided in quintile three. In comparison non-service users resided in a mixture of deprivation quintiles; but predominantly this category consisted of women who lived in the most deprived quintile. Five interviewees were unemployed, five were classified as disabled or unable to work on medical grounds and two women were retired. The remaining women were employed within a range of occupations.

iv) Research materials

Copies of all research materials are displayed in Appendix 3. An information sheet and a consent form were designed in accordance with NHS guidelines (NHS National Patient Safety Agency, 2004). Both forms used simple language and had an informal style. A photograph of the researcher was added to the information sheet, in an attempt to make the research seem less daunting. Text boxes and coloured fonts were used to make the form appear less word intensive and off-putting. Participants were given an information sheet which informed them that all data generated during the research process would be confidential and stored in accordance with the Data Protection Act (1998) (The national archive, 1998). The information sheet explicitly stated what the research involved, that participation was voluntary and they were free to withdraw from the investigation at any time without providing a reason.

A questionnaire was designed to collect participant demographics and information about smoking and quitting behaviour (e.g. current smoking status, the number of previous quit attempts made and the number of cigarettes smoked per day). An interview topic guide was also designed which contained three main sections. The first section was a warm-up section which contained questions about smoking initiation and current smoking levels. Participants are often anxious and it is the responsibility of the researcher to diminish such anxiety (Legard, Keegan, & Ward, 2003). Therefore, the purpose of this section was to put participants at ease. The second section contained questions surrounding attitudes and experiences of smoking cessation and of using NHS cessation support and pharmacotherapy. The final section explored participant's perceptions about the opinions that significant others had about smoking cessation and NHS cessation support. The final questions sought to establish participant's future intentions regarding their smoking behaviour.

Table 1: Participant details within the qualitative investigation

Participant number	Category	Area	Age	Ethnicity	Deprivation*	Occupation
1	Service user	Bath	57	White British	5	Carer
2	Service user	Bath	28	White British	5	Unemployed
3	Service user	Bath	28	White British	5	Student/part-time employment
4	Service user	Bath	63	White British	5	Executive civil servant
5	Service user	Bath	63	White British	5	Retired (disability)
6	Service user	Bath	41	White British	5	Civil servant
7	Service user	Bath	44	White British	5	Shop assistant
8	Service user	Bath	40	White British	5	Unemployed
9	Service user	Bath	54	White British	5	Disabled
10	Service user	Bath	41	White British	5	Disabled
11	Service user	Bath	45	White British	5	Carer
12	Service user	Bath	71	White British	5	Retired (disability)
13	Service user	Dudley	45	Black Caribbean	5	Unemployed
14	Service user	Dudley	41	White British	5	Unemployed
15	Service user	Dudley	56	White British	5	Court clerk
16	Service user	Dudley	41	White British	5	Centre manager
17	Service user	Dudley	57	White British	5	Civil servant
18	Service user	Dudley	39	White British	5	Shop assistant
19	Lost to follow up	Bath	65	White British	3	Retired
20	Lost to follow up	Bath	56	White British	5	Healthcare worker
21	Lost to follow up	Dudley	51	White British	5	Disabled
22	Lost to follow up	Dudley	48	Black Caribbean	5	factory worker/care assistant
23	Lost to follow up	Dudley	48	White British	5	Retired (medical grounds)
24	Non-service user	Bath	58	White British	1	Administrator
25	Non-service user	Dudley	39	White British	3	Chef
26	Non-service user	Bath	44	White British	-	Project manager
27	Non-service user	Bath	34	White British	-	Web developed
28	Non-service user	Bath	30	White British	3	Self employed
29	Non-service user	Bath	31	White British	5	Unemployed
30	Non-service user	Bath	28	White British	5	PhD student

*1 denotes the most affluent quintile and 5 denotes the most deprived quintile on the Index of Multiple Deprivation.

v) Piloting

All research materials were piloted with a 57 year old woman from Bath. Piloting provided an important opportunity to test the research materials and obtain valuable feedback about whether they were easily understood by participants and whether they generated appropriate data (Teddlie & Tashakkori, 2009). The pilot interview lasted for approximately 1 hour and 12 minutes. The participant identified no problems with regards to the clarity of the interview questions. However, once the interview was transcribed, the researcher identified that questions did not generate enough information about the interviewee's experiences. The interviewee appeared reluctant to discuss smoking in the context of her personal life instead she engaged in an abstract discussion about her opinion of society's view of smoking. Moreover, the pilot interviewee appeared to have difficulty conceptualizing what was meant by the stop smoking service, and talked more broadly about wider tobacco control policies such as smokefree legislation and increased tax.

In an attempt to ensure that future participants discussed smoking in the context of their lives; two modifications were made to the interview topic guide. A life history section was added into the topic guide to act as a warm-up section within the interview. Interviewees were asked to give a description of their typical day (with prompts about their occupation, the people they lived with and whether they had children or any hobbies). It was felt that this would encourage interviewees to disclose personal information which would enable the researcher to contextualise the rest of the interview. Another section was added to explore interviewee's most recent experiences of using NHS cessation support. Participants were also asked if they had any suggestions for future service improvement. The aim of these sections was to prompt interviewees to focus on their own experiences rather than loosely discussing smoking cessation. Furthermore, the interview structure was changed so that the questionnaire was included as part of the warm–up section in a bid to put participants at ease. The existing questionnaire was modified to include the heaviness of smoking index (HSI) (Heatherton, Kozlowski, Frecker, Rickert, & Robinson, 1989). It was felt that the addition of the HSI would be useful in building a more composite picture of participants smoking habits.

The revised interview schedule was piloted with a further two participants. These pilot interviews lasted for approximately 33 and 57 minutes respectively. The second pilot interviewee identified no problems with the topic guide; however upon transcription it was noted that the researcher reverted to a closed method of questioning. Therefore a decision was made to re-pilot the topic guide again. The third pilot interviewee identified no problems with the schedule and no further changes were made.

A focus group discussion guide was also developed. It contained two sections; section one was an introductions section which contained questions about women's personal experiences of smoking cessation and section two focussed on women's perceptions of NHS cessation support.

vi) Ethics

Procedural ethics involves ensuring that the research receives appropriate ethical approval (Guillemin & Gillam, 2004). The research received ethical approval from Wiltshire Ethics Committee on the 3rd September 2009 and local ethical approval in B&NES on the 20th October 2009 and Dudley on the 7th of July 2010. Procedural ethics has a medical focus and therefore, it is also important to consider ethics in practice (Guillemin & Gillam, 2004). Although the research was not envisioned to be upsetting for participants; measures were put into place in case a participant became distressed. In such an instance the interview would be terminated by the researcher and the participant would be asked if there was anyone that could be contacted on their behalf. The researcher would try to show empathy towards the participant but would try to remain as neutral as possible to avoid saying anything which would influence the participant to take a particular course of action. Another issue to consider is the disclosure of personal information during the interview process which either incriminated the participant's involvement in an illegal activity or raised concerns about their welfare. In such an event the researcher would inform the participant that although the interview is confidential that they have a duty to report such information to the relevant authorities.

vii) Procedure

A total of 124 and 255 invites were sent to service users and lost to follow up clients in B&NES and Dudley respectively. Invitation packs contained an invitation letter (with a tear away slip), a study information sheet and a stamped addressed envelope to return responses directly to the researcher. Once the researcher received response slips, participants were contacted to arrange interviews. Interviews were conducted in local cafés, leisure centres and participant's homes. As, non-service users were recruited from advertisements the procedure was slightly different. A total of ten women responded to advertisements. They were sent a screening questionnaire, an information sheet and a stamped addressed envelope. Eight women were identified as eligible to take part in the research and were invited to attend a focus group.

At the beginning of interviews and the focus group, the purpose of the investigation was explained to participants who were assured that all information exchanged would be treated in confidence and that they would remain anonymous. Participants were informed that their participation was voluntary and they were asked to give written consent to indicate they wished to take part in the research and were happy being audio-recorded. Participants in the focus group were asked to respect each other and keep any information shared confidential. Participants were told how data would be used (i.e. as part of a doctoral thesis and plans for publications). All participants were informed that they could refuse to answer any question, or withdraw from the research at any point if they did not want to continue. All participants were given the researchers contact details and were told to contact the researcher if they had further questions

Interviews were conducted following the guidelines of Legard et al. (2003) (i.e. by starting with neutral topics and gently easing into the interview). Participants were asked questions from the interview topic guide. New questions were asked as the researcher deemed necessary. All interviews lasted between 30 minutes and 1 hour and 45 minutes. At the beginning of the focus group, participants were asked to give a brief introduction about their smoking and cessation history. Questions were then asked from the focus group topic guide. The questions on the topic guide were used to facilitate group discussion and were only used if an area of interest remained

uncovered. The two non-service users who were interviewed were interviewed following the interview protocol using the focus group discussion guide. All participants received a £10 voucher for participating in the research.

Interviews and focus groups were transcribed verbatim. Once transcription was completed the recordings of the interview were destroyed. The transcripts were stored on a computer which only the researcher could access via password. Participants were assigned a number so that they were only identifiable to the researcher.

viii) Reflexivity and the role of the researcher

Research is rarely objective and the personal, interpersonal, institutional, pragmatic, emotional, theoretical, epistemological and ontological beliefs of the researcher influence the way that research is conducted and the way that data is analysed (Guillemin & Gillam, 2004; Mauthner & Doucet, 2008). Reflexivity is an active process of reflection about how such beliefs or assumptions of the researcher impact upon the data collection and data analysis process to influence research. As previously discussed the researcher worked part-time as a stop smoking advisor in B&NES. It was felt that such work undertaken alongside the research would strengthen the researcher's insight into the processes involved in smoking cessation. However, such work meant that the researcher acquired knowledge and beliefs that are central to working as a stop smoking advisor. Consequently the role of stop smoking advisor was one that the researcher identified with. This caused difficulties for the researcher during the piloting phase of data collection as the researcher experienced difficulty separating the role of researcher from stop smoking advisor. Such difficulties were further exacerbated by the fact many participants saw the advisor as a source of information in relation to quitting smoking and asked for advice about smoking cessation. When presented with direct questions about smoking cessation or misconceptions about pharmacotherapy or support options, the researcher slipped into the familiar role of cessation advisor and dispensed advice or corrected any perceived misconceptions that the participant might have. The difficulty experienced in separating the two roles was something that the researcher noted when reflecting on the first two pilot interviews. Consequently efforts were

made by the researcher to ensure that the two roles remained separate. The researcher aimed to remain as objective as possible in the interviewing process therefore, participants were not given smoking cessation advice and inaccuracies in their knowledge were not corrected by the researcher. Such a task was difficult and the researcher had to struggle to keep in a neutral role. After the interviews and focus groups were completed, participants that had direct queries were given the contact details of the local stop smoking service who could answer any queries participants had.

Participants were not informed about the researchers' affiliation with the stop smoking service. The information sheet identified the researcher as a PhD student and emphasised that the research was funded as an external evaluation of NHS cessation support. It was hoped that this would encourage participants to be honest about their opinions and experiences of cessation support. Care was taken to ensure that clients that had prior contact with the researcher (in an advisor role) were not invited to take part in the research. Such steps were deemed necessary as it was felt that making the researchers personal affiliation known might have led to biased responses and caused unequal power distributions between the researcher and the participant whereby participants might have felt uncomfortable discussing any problems they had with NHS cessation support or felt pressurised to express negative views about smoking.

It is possible that the personal viewpoints of the researcher (as outlined in Chapter 1 pg15) might have impacted upon data analysis. The researcher strongly identifies with the tobacco control and health promotion research agenda and although the researcher aimed to be neutral and let the data drive the analysis process, the researcher's reference for interpreting the data was instilled with personal knowledge values and beliefs. A key consideration in the data analysis process was how such information would improve smoking cessation services and increase the quit rates of women.

3.4 ANALYSIS

This section outlines the quantitative and qualitative data analyses that were conducted.

3.4.1 Quantitative data analysis

The characteristics of each dataset, the variables of interest and the details of the secondary data analyses performed are described.

i) Characteristics of the datasets

The North Cumbria and Nottingham datasets contained information about 1177 and 892 smokers that used NHS cessation services between October 2001 and March 2003. The Glasgow dataset contained information about 1395 smokers who used NHS cessation services between March and May 2007. Table 2 contains a summary of the key differences between samples (a more comprehensive description of each sample is provided in Appendix 4). Notable differences existed between samples in terms of service structure, pharmacotherapy used and quit rates achieved. These differences are now summarised.

Table 2 : Key differences between the North Cumbria, Nottingham and Glasgow samples

	Glasgow		**North Cumbria**		**Nottingham**	
Pharmacotherapy used	**Group**	**1-1**				
None	2.2% (n = 9)	0.3% (n = 3)	2.9% (n = 34)		1.5% (n = 13)	
NRT	81.0% (n = 329)	99.6% (n = 985)	78.6% (n = 879)		78.5% (n = 689)	
Bupropion/Varenicline	16.7% (n = 68)	0.1% (n = 1)	18.3% (n = 205)		20.0% (n = 176)	
			Group	**1-1**	**Group**	**1-1**
Sample size	*406*	*989*	*14*	*1136*	*50*	*834*
% 4 week CO quit	*35.7% (n = 145)*	*20.4% (n = 202)*	*57.1% (n = 8)*	*61.0% (n = `693)*	*62.0% (n = 31)*	*45.1% (n = 376)*
% 52 week CO quit	*6.4% (n = 26)*	*3.4% (n = 34)*	*35.7% (n = 5)*	*15.8% (n = 180)*	*14.0% (n = 7)*	*12.4% (n = 103)*

Few clients accessed group support in North Cumbria and Nottingham compared to Glasgow (3.1% vs. 29.0%). Furthermore, the format of 1-1 support differed between the English and Scottish samples. In Glasgow; 1-1 support was delivered in a pharmacy setting whereas 1-1 support in North Cumbria and Nottingham took place

in a variety of settings (such as GP surgeries and community venues). Differences also existed in the types of pharmacotherapy that clients used. NRT was predominantly used by clients accessing 1-1 support in Glasgow (99.6%), whereas clients accessing group support in Glasgow used a mixture of bupropion/varenicline and NRT (NRT 81.0%, buproprion/varenicline 16.7%). In comparison varenicline was not available to clients in North Cumbria and Nottingham who instead used a mixture of buproprion and NRT (NRT 78.6%/78.5%, buproprion 18.3%/20.0%). Lastly, the quit rate was much higher in North Cumbria and Nottingham compared to Glasgow.

As differences existed in time periods, quit rates and the format of cessation support, a decision was made to analyse the Glasgow and North Cumbria and Nottingham datasets separately. However, as the North Cumbria and Nottingham samples were similar in terms of service structure and quit rates; a decision was made to merge these two samples into one dataset. Furthermore, as the two Glasgow services differed completely in terms of structure and quit rates; a decision was made to split the Glasgow dataset into two samples (the group intervention sample and the 1-1 intervention sample). It was hoped that splitting the Glasgow sample into two groups would counteract any confounding variables that might have existed.

ii) Data analysis

A primary aim of the quantitative investigation was to identify factors that discriminated between unsuccessful and successful quitters. Table 3 lists the variables included in the secondary data analysis. Variables included related to a service users demographics, SES, household circumstances, addiction, interpersonal characteristics and service use. All variables were identified by wider literature as having an association with cessation outcomes in men and women. The literature which links these variables to smoking behaviour was discussed in Chapter 2 and is not discussed again here.

The majority of variables in the investigation were categorical. Therefore, data analysis consisted of a combination of chi-square tests and logistic regression analyses. Three continuous independent variables existed within the investigation

(age and number of children/adults in a household). These three variables were analysed using t-tests (if data were normally distributed and displayed homogeneity of variance), or Mann Whitney test (if data was not normally distributed). The specific analyses conducted to answer each research question are now described. Please note that all datasets (North Cumbria/Nottingham and the two Glasgow samples) are used to answer research questions 1 and 2. However, cessation services in Glasgow had a high rate of lost to follow up clients at 52 weeks which resulted in a low number of CO validated quitters. Consequently a decision was made to exclude both Glasgow samples from the logistic regression analyses which required a minimum of five cases in each subcategory. Therefore, the logistic regression analyses that are performed to answer research questions 3 and 4 rely solely upon the North Cumbria and Nottingham dataset.

Research question 1: Are women less successful than men at quitting smoking using NHS support?

Chi square tests were conducted to see if sex differences existed in cessation outcomes at 4 and 52 weeks (using both self-report and CO validated measures). The samples (North Cumbria/Nottingham and Glasgow) were split in terms of intervention format and the type of pharmacotherapy used and analyses were re-performed to assess whether sex differences existed in relation to cessation outcomes. The datasets were also split by sex and correlations were calculated between cessation success and type of pharmacotherapy used. Logistic regression analyses were performed to identify the factors that predicted cessation outcomes at 4 and 52 weeks.

Research Question 2: Are there sex differences in terms of smoking behaviour and access to NHS cessation services?

Chi square tests were performed to examine whether sex differences existed in the numbers of men and women that accessed cessation services in North Cumbria, Nottingham and Glasgow. Analyses (chi square/t-tests/Mann–Whitney tests) were also conducted to determine whether sex differences existed in terms of client demographics, level of SES, household circumstances, level of addiction, interpersonal factors and service use characteristics.

Table 3: Variables included within the quantitative investigation

Variable	Variable categories
Demographic	
age	continuous variable
Socioeconomic status	
Deprivation quintile (IMD)	most deprived quintile vs. other deprivation quintiles
free prescriptions entitlement (<age 60)	free prescription vs. paying for prescriptions
the age of leaving full-time education	at 15 vs. 16 or above
housing tenure	rents vs. other tenures
employment status	working, studying, caring vs. permanently sick, disabled or unemployed
Household variables	
being a single parent	single parent vs. other household type
living with a spouse/partner	lives with a spouse or partner vs. does not live with a spouse or partner
number of adults within a household	continuous variable
number of children within a household	continuous variable
Addiction	
time until first cigarette of the day (Glasgow times in brackets)	under 5 (6) minutes vs. 5 (6) - 29 (30) minutes vs. 30 (31) + minutes
ease of going a day without a cigarette	very/fairly easy vs. very/fairly difficult
number of cigarettes smoked per day	10 or less vs. 11-20 vs. 21+
reason for smoking	mainly coping vs. mainly pleasure or equal amounts of pleasure/coping
Interpersonal factors	
self-reported health in the previous year	good or fairly good vs. not good
the number of quit attempts	0-1 vs. 2+
whether one lived with a smoker	lives with a smoker vs. lives with non-smokers
feeling supported to quit	feeling supported to quit vs. feeling unsupported to quit
feeling supported to quit and relationship status	unsupported to quit vs. single and feels supported to quit vs. in a relationship and feels supported to quit
determination to quit	not at all, quite, very determined vs. extremely determined
Service use characteristics	
source of referral	self vs. other
type of pharmacotherapy used	None vs. NRT vs. bupropion/varenicline
weeks of pharmacotherapy	0-4 weeks vs. 5-6 weeks vs. 7+
number of staff contacts	0-4 contacts vs. 5-6 contacts vs. 7+ contacts
total amount of service use	0-.4 weeks vs. 5-6 weeks vs. 7+ weeks
intervention type	group vs. 1-1

Research Question 3: What are the determinants of smoking cessation success in women using the NHS cessation services?

Logistic regression analyses were performed to identify the predictors of cessation outcomes at 4 and 52 weeks for both men and women. Logistic regression analyses were performed as the dependent variable was dichotomous; i.e. clients were either classified as smoking or as having quit at 4 and 52 weeks (as a result of being tested for CO). Therefore outcomes can be coded as a binary 0 or 1 response. A CO method of validation was chosen instead of self-report as biochemical validation has been demonstrated to be a more reliable reflection of smoking status (West, 2005; West, Hajek, Stead, & Stapleton, 2005). An intention to treat analysis was used. This means that clients classified as lost to follow up were assumed to have resumed smoking and therefore were classified as not quitting smoking. Research has confirmed this to be an accurate assumption and the use of an intention to treat analysis has been recommended by the Russell standard guidelines for best clinical practice (West, 2005; West, et al., 2005).

The variables weeks of pharmacotherapy use and the number of contacts with the service were highly correlated (as they both reflect engagement with cessation support). Therefore, these variables could not be entered into the regression analyses simultaneously. As a solution to this, these two variables were combined by taking the highest value as an indicator of service use and a new variable (weeks of service use) was created. Weeks of service use was only entered into the 52 week regression models (and not 4 week models) as accessing a service for 7 weeks or more was highly correlated with 4 week cessation outcomes. The variable free prescription entitlement was only valid for individuals aged under 60, as all people aged over 60 are entitled to free prescriptions. Therefore when this variable was entered into regression analyses the sample was restricted to individuals aged under 60.

A listwise deletion method was used for regression analyses whereby cases with missing data were excluded from analyses. Steps were taken to reduce missing data in attempt to ensure that fewer cases were excluded from analyses. Therefore, only variables that were significantly associated with cessation outcomes (as determined by correlations) were entered into regression analyses. This meant that cases that

contained missing data on non-significant variables were not excluded from analyses.

All variables were entered using a backwards stepwise (likelihood ratios) method. As no rationale existed about the importance of variables, all variables were entered into the analysis simultaneously. Predictors entered into logistic regression analyses do not have to be normally distributed or assume equal variances within each group (as they are categorical) (Tabachnick & Fidell, 2007). One vital assumption for logistic regression is the assumption of multicollinearity. However, multicollinearity tests showed that there were no VIF figures above 10 and no tolerance figures below 0.1 indicating that multicollinearity was not a problem for this data (Field, 2005).

Residual analyses were conducted to ensure that regression models were not influenced erroneously by outliers. One should expect 5% of standardized residuals to be above 1.96, 1% to be above 2.58 and none to be above 3.29 (Field, 2005). Dfbeta, leverage and cooks values were also calculated (when outliers were suspected) to determine if specific cases were unduly influencing models. A dfbeta or cooks value above one suggested that a case was exerting an undue influence on the model (Field, 2005). Leverage values were calculated by dividing the number of independent variables (+1) by the total number of cases in the sample. Values that are twice or three times as large as this number should be viewed with caution (Field, 2005).

Research question 4: What role does disadvantage play in smoking cessation in women who use NHS support?

Chi square tests were conducted to examine the association between markers of disadvantage (IMD quintile, free prescription entitlement and housing tenure) and markers of addiction (time until first cigarette of the day and number of cigarettes smoked per day).

All analyses were conducted using SPSS, version 18 (Polar Engineering and Consulting, 2009).

3.4.2 Qualitative data analysis

Thematic analysis was chosen as the analytic approach for the qualitative investigation. *"Thematic analysis … allows for systematic analysis of the meanings made of the phenomena under investigation"* (pg67) (Joffe & Yardley, 2003). Thematic analysis includes processes whereby qualitative data is searched and coded. Codes are eventually grouped into themes. *"A theme is a pattern found in the information that at a minimum describes and organizes the possible observations and at a maximum interprets aspects of the phenomenon"* (Pg161) (Boyatzis, 1998). Thematic analysis offers a high degree of flexibility when analysing and reporting patterns that exist within the data (Braun & Clarke, 2006), whereby researchers can use either an inductive or an deductive approach when analysing the data. Moreover, thematic analysis is viewed as 'an acceptable and meaningful' data analysis by both quantitative and qualitative researchers as it is not bound to an underlying theory (Boyatzis, 1998; Joffe & Yardley, 2003). It therefore sits well with the pragmatic viewpoint of the researcher.

A disadvantage of using thematic analysis is that it is not as holistic as other methods of analysis (such as Interpretative Phenomenological Analysis) (Smith, 2004). Instead the focus of thematic analysis is very content driven. Therefore to remedy this disadvantage a decision was made to include short case studies about participants to illustrate what the themes meant at an individual level. It was hoped that this addition would mean that the analysis took a more holistic approach.

It is worth noting here the treatment of interview and focus group data. Focus groups and interviews represent distinct research methods (Barbour, 2007; Carter & Henderson, 2005; Flick, 2006). Consequently it is best practice to analyse the data that each method generates separately. Using thematic analysis interviews and focus groups were initially analysed separately. However, following preliminary analyses of the data a decision was made to merge the focus group and interview data. The main reason for this was that both types of data were thematically similar (and moreover, only one focus groups was conducted). However, the pooling of the data does not mean that data were treated in the same way. When analysing focus group data attention should be paid to social interaction and the context in which

participant quotes were generated (Krueger, 1998; Morgan, 2010). Therefore, the influence of group interaction was considered when analysing participant responses. Furthermore, care was taken when reporting the findings of the thematic analysis (in Chapters 5 and 6) to report relevant contextual information relating to any quotes from the focus group rather than presenting data as isolated incidents (Krueger, 1998; Morgan, 2010).

There are five stages of thematic analysis; familiarisation with data, producing codes, searching for themes and grouping codes, reviewing themes and identifying and naming themes (Braun & Clarke, 2006). These stages were followed by the researcher. Data analysis was not a linear process as Braun and Clarke's (2006) stages imply but an iterative process whereby themes were refined many times. An inductive approach was used whereby analyses were driven by data rather than theory. However, the process was not wholly inductive as analyses were guided by research questions. Moreover, the later stages of the analysis required the researcher to use deductive reasoning to make sense of the themes in a wider context. The organisation of codes and themes was facilitated by the Nvivo 8 software programme (QSR International, 2008).

The first stage of the data analysis was to gain familiarity with the data. The transcription process plays an important part in the familiarisation process (Bird, 2005), whereby researchers achieve 'closeness' to data. Once data had been transcribed, interviews were re-read and sections that appeared interesting were coded as free nodes using the Nvivo software. After reading the first nine interviews a total of 91 nodes were created.

The nodes were reviewed and placed into clusters in terms of how they related to each other (in Nvivo this is called the creation of tree nodes). It was felt that this would ease further analyses and prevent the number of codes from becoming unwieldy. The following tree nodes were created; experience of smoking and addiction, pharmacotherapy, stop smoking services, social norms surrounding smoking and quitting, purpose of smoking, reason for cessation, barriers and concerns to/about cessation, facilitators to successful cessation and experiences of

cessation. In Braun and Clarke's guidelines this is referred to as searching for themes. The remaining interviews were read and coded and it was found that all new codes fitted into this broad theme structure.

The preliminary theme structure was reviewed and a total of five preliminary themes were created; *experience of smoking and addiction* (a merger of the tree nodes experience of smoking and addiction and purpose of smoking) *social norms, cessation* (a merger of reason for cessation, barriers and concerns to/about cessation, facilitators to successful cessation and experiences of cessation), *NHS stop smoking services and pharmacotherapy*. At this point data were organised into themes that matched the areas of interest specified by the research question. This is not uncommon in the area of applied policy research where data is collected to answer specific research questions, which drive data analysis (Ritchie & Spencer, 1994). However, the initial theme structure was very descriptive and therefore, was redeveloped so that the analysis critically explored some of the latent mechanisms that affected women's behaviour. This task in particular was an extremely iterative process, whereby themes were developed and redeveloped time and time again. In order to illustrate the analytical process an example of the development of themes four to eight is provided in Table 4.

The final stage of thematic analysis was to name the themes so that they express the phenomenon that they represent. The final eight themes were labelled; *smoking as an emotional dependency, attitudes, why do women quit smoking, hearing women's voices, lack of awareness, repeated service use, pharmacotherapy and ownership.* The results of the qualitative analysis are presented in Chapters 5 and 6.

3.5 LIMITATIONS

The limitations associated with the quantitative and qualitative research are now presented.

3.5.1 Limitations of the quantitative research

Many of the limitations associated with the use of the secondary data were discussed in section 3.3.1. The datasets used are ageing, contain some missing data and may

Table 4: an example of the refinement of themes four to eight

Overarching topic	Determinants of experience	Subthemes	Theme
Experiences of using NHS stop smoking support	***Women's feelings/experiences of support*** Women have different needs and one size does not fit all	Subtheme 1: Level of support required	**Theme 4: Hearing women's voices**
	How did women access support? *By appointment, option of telephone support or drop-in clinics* ***What aspects of cessation support did women most value?*** *Accessibility, flexibility*	Subtheme 2: Format of cessation support	
	Where was support based? *GP surgery or community venues* ***Were women happy with the location?/Were any suggestions given to improve the location of cessation support?***	Subtheme 3: Location, intervention type and staff	
	Did women access group or 1-1 support*?* *What was your experience of this? Perceptions, good/bad aspects*		
	Who delivered support (what was their job role)? *What were women's experiences of their stop smoking advisor? What qualities did the women value in their advisor? What attributes were most important to women?*		
Knowledge and perceptions of cessation support	*Lack of knowledge of other service providers and the different formats of support* *Not making an informed choice* *Many suggested improvements exist already highlighting a need to create awareness*		**Theme 5: Lack of awareness about available cessation support options**
Are services meeting women's needs?	*Cyclical nature of smoking cessation. Cessation support has a short-term focus does this meet women's needs?*		**Theme 6: Repeated quit attempts**
Responsibility	*Responsibility and the impact of taking ownership* *Feelings of guilt and disempowerment*		**Theme 8: Ownership**

not be representative of wider populations. However, the purpose of this study was to explore the factors that may be responsible for the lower cessation outcomes observed in women. No studies have explored why women using NHS support might have reduced cessation outcomes compared to men. Therefore, although problematic in some ways the research is exploratory and may highlight worthy directions for future research.

In terms of research design; the research was cross-sectional in nature and therefore, is limited in that it only offers a snapshot insight into the factors that influence women's cessation attempts. Moreover, the research design does not allow inferences to be made about the causality of effects (i.e. do successful quitters have more contact with NHS stop smoking services or are those that have increased contact with services more likely to become successful quitters?). Longitudinal designs are generally preferable to cross-sectional designs (Bowling & Ebrahim, 2005). However, due to time constraints the use of such a design was not possible. Furthermore, as the purpose of the research was to explore the factors that might influence smoking cessation outcomes in women a cross-sectional design was appropriate to answer the research questions of this investigation. Lastly, a specific limitation associated with the use of secondary data is the lack of control that exists in relation to what data was collected, how it was collected and how it was collated and coded. Such decisions can limit the information that is available and the interpretations that can be made of the data. However, these datasets were collected as part of two externally funded evaluations and therefore a vast amount of information was available to the researcher. Furthermore, preliminary investigations highlighted that the datasets appeared to contain all of the information needed to answer the research questions of the investigation.

The secondary data analysis consisted of many analyses and therefore the likelihood of making a type 1 error was increased. A type 1 error occurs when the null hypothesis is falsely rejected (Field, 2005; Tabachnick & Fidell, 2007) A solution to this is to apply a bonferroni correction whereby the benchmark for statistical significance is set higher at $p<.01$ (rather than $p<.05$). This correction was not

applied within this research and therefore the reader should view results significant at $p<.05$ cautiously.

3.5.2 Limitations of the qualitative research

Participants within the qualitative study were recruited using purposive sampling. Therefore, the decision to take part in the research resided with the participant and therefore participant selection biases might have existed, whereby certain individuals were more likely to participate in research (Woolf, Rothermich, Johnson, & Marsland, 2000). Efforts were made to reduce participant selection bias by attempting to recruit participants with a variety of experiences such as those who did not quit smoking or who were classified as lost to follow up.

The Index of Multiple Deprivation (IMD) was used as a measure of an individual deprivation. The IMD was chosen to measure deprivation as it is the gold standard measure used by public health services to target inequalities (Adams & White, 2006; Niggebrugge, Haynes, Jones, Lovett, & Harvey, 2005). However, this measure may be problematic as area deprivation may not always be congruent with an individual's SES. Furthermore, the IMD may not have been the most sensitive measures to capture deprivation amongst women. It has been argued that different measures may be more appropriate such as occupation, housing tenure, receipt of means tested benefits and lone motherhood (Graham, 1998), however, participants may not have wanted to disclose such information to the researcher.

The focus group provided a great insight into the reasons why non-service users may happily continue to smoke or choose to quit independently. The data was very rich in quality. However, unfortunately, only one focus group was conducted due to difficulty recruiting participants. Another two women were interviewed but as different dynamics would have existed between the researcher and the participant during the interview process; therefore participants might have felt pressure to express certain viewpoints.

3.6 SUMMARY

The research used a mixed methods research design to examine women's

experiences of smoking cessation. The investigation comprised of two studies; one quantitative and one qualitative. The quantitative research seeks to identify the factors that affect women's cessation outcomes at a population level. This information provided a contextual backdrop to the qualitative research and identified areas that could be explored in further detail. The qualitative research explores women's individual experiences of smoking cessation. The integration of the two methods occurs primarily in Chapter 7 of the thesis whereby the findings are examined collectively and reviewed in light of wider research.

The quantitative study consisted of a secondary data analysis of service use data collected by cessation services in North Cumbria, Nottingham and Glasgow. Women are often reported to be less likely to quit smoking compared to men. However, the validity of such findings is often contested (Jarvis, et al., 2012) and therefore this research aimed to explore whether women in these samples had lower cessation outcomes compared to men. Moreover, the analysis sought to examine why women might be less successful in quitting smoking and therefore, the differences in characteristics between men and women who access cessation services were explored. The main outcome of the study was to identify factors associated with cessation success amongst women. These factors were explored in further detail in the qualitative research. International policy has called for tobacco control to have a gendered focus (WHO, 2003). Therefore, a need existed to explore whether stop smoking services are meeting women's cessation needs. The qualitative study sought to explore women's experiences of quitting smoking and their experiences of using NHS support. The qualitative analysis highlighted areas which could potentially be improved to meet women's needs. The results of the research are presented in the following chapters.

CHAPTER FOUR: SECONDARY DATA ANALYSIS

4.1 INTRODUCTION

Many studies have reported that women are less successful than men at quitting smoking (Bauld, et al., 2010; Bjornson et al., 1995; Bohadana, Nilsson, Rasmussen, & Martinet, 2003; Fortmann & Killen, 1994; Perkins, 2001; Perkins, et al., 1999; Perkins & Scott, 2008; Scharf & Schiffman, 2004; Wetter et al., 1999). However, other research has reported no difference between the quit rates of men and women in the general population (Jarvis, et al., 2012; Vangeli, et al., 2011). Some researchers have argued that research which has found cessation differences between men and women is unrepresentative as it is based on samples of individuals who are using formal cessation services and therefore does not include individuals who make unassisted quit attempts (Jarvis, et al., 2012). This issue is further compounded by publication biases whereby sex differences are not always explored or are only published when significant differences exist (Cepeda-Benito, et al., 2004).

However, women who access UK NHS stop smoking services have been consistently reported as having lower quit rates compared to men (Bauld, et al., 2010; ISD Scotland, 2010, 2011; The Information Centre, 2005, 2006, 2007, 2008, 2009, 2010, 2011c, 2012). Moreover, research has consistently argued that women achieve lower abstinence rates compared to men when using NRT (Perkins, 1996, 2001; Perkins, Grobe, Stiller, Fonte, & Goettler, 1992; Perkins & Scott, 2008; West, Hajek, et al., 2001). Despite these findings little research has been conducted exploring why women who use NHS cessation services may be less likely to quit smoking compared to men. The WHO has called for research to examine existing cessation interventions to explore whether they are meeting men and women's needs (WHO, 2003). Therefore, further research is warranted to determine why women using NHS cessation support may be less likely to quit smoking compared to men when using UK services.

The objective of this research was to undertake a detailed analysis of data collected by NHS cessation services to explore whether sex differences existed in client characteristics or cessation outcomes of men and women at 4 and 52 weeks. Determinants of 4 and 52 week cessation outcomes in women and men were also explored. Four research questions were investigated;

1. Are women less successful than men at quitting smoking using NHS support?

2. Do sex differences exist in smoking behaviour and access to NHS cessation services?

3. What are the determinants of smoking cessation success in women using NHS cessation services?

4. What role does disadvantage play in smoking cessation in women who use NHS support?

The results of the analysis are now presented.

4.1.1 Are women less successful than men at quitting smoking using NHS support?

This section examines whether women accessing cessation support were less likely than men to quit smoking. Table 5 displays the quit rates for men and women who used cessation support in each area. Women who used NHS cessation support in North Cumbria and Nottingham were significantly less likely to quit smoking compared to men at 4 and 52 weeks using both self-report and CO validated measures. At 4 weeks, 57.8% of men were CO validated as quitting smoking compared to 52.1% of women and at 52 weeks 17.5% of men were CO validated as quitting smoking compared to 12.7% of women. Such sex differences were not evident in either of the Glasgow samples. However, both of the Glasgow services reported much lower quit rates compared to the quit rates reported in North Cumbria and Nottingham. The reasons underpinning this are discussed in section 4.2.

Sex differences in quit rates in North Cumbria and Nottingham only existed for clients that used NRT. However, chi square analyses illustrated a dose response

Table 5: Cessation outcomes of men and women in Glasgow, North Cumbria and Nottingham

	North Cumbria/Nottingham		Glasgow group		Glasgow 1-1	
	Male	**Female**	**Male**	**Female**	**Male**	**Female**
4 WEEKS	Total n = 902	Total n = 1167	Total n= 139	Total n = 267	Total n = 413	**Total n = 576**
Self-reported quit rate	65.6%	57.9%	41.7%	41.2%	31.7%	**31.8%**
$\chi^2(1)$	12.73**		0.01, NS		**0.00, NS**	
Co validated quit rate	57.8%	52.1%	37.4%	34.8%	20.3%	**20.5%**
$\chi^2(1)$	6.58**		0.27, NS		**0.00, NS**	
Group	71.9% (Total n= 32)	50.0% (Total n= 32)				
$\chi^2(1)$	3.22, NS					
1-1	57.2% (Total n= 849)	52.0% (Total n= 1121)				
$\chi^2(1)$	5.34*					
52 WEEKS						
Self-reported quit rate	20.6%	15.6%	13.7%	10.5%	7.7%	**6.6%**
$\chi^2(1)$	8.88**		0.90, NS		**0.48, NS**	
Co validated quit rate	17.2%	12.7%	6.5%	6.4%	3.9%	**3.1%**
$\chi^2(1)$	8.25**		0.00, NS		**0.41, NS**	
No pharmacotherapy	26.3% (Total n= 19)	25.0% (Total n= 28)	0% (Total n= 3)	16.7% (Total n= 6)	0% (Total n= 2)	**0% (Total n= 1)**
$\chi^2(1)$	0.10, NS		0.56, NS			
NRT	17.7% (Total n= 662)	13.4% (Total n= 906)	5.9% (Total n= 118)	5.7% (Total n= 211)	3.9% (Total n= 411)	**3.1% (Total n= 574)**
$\chi^2(1)$	5.54*		0.01, NS		**0.41, NS**	
Bupropion/ Varenicline	14.6% (Total n= 206)	11.4% (Total n= 175)	11.1% (Total n= 18)	8.0% (Total n= 50)	0% (Total n= 1)	**0% (Total n= 1)**
$\chi^2(1)$	0.82, NS		0.16, NS			
Group support	15.6% (Total n= 32)	21.9% (Total n=32)				
$\chi^2(1)$	0.41 NS					
1-1 support	17.1% (Total n=849)	12.3% (Total n=1121)				
$\chi^2(1)$	8.93**					

Table 6: Patterns of service use and cessation outcomes of men and women in Glasgow, North Cumbria and Nottingham

CO Validated quit rates	North Cumbria/Nottingham				Glasgow Group				Glasgow 1-1			
	Male		Female		Male		Female		Male		Female	
	%	Total n	%	Total n	%	Total n	%	Total n	%	Total n	%	Total n
All sample	17.2%	902	12.7%	1167	6.5%	139	6.4%	267	3.9%	413	3.1%	576
Number of contacts with the service												
0 - 4 contacts	13.9%	524	8.7%	643	0%	38	0%	70	0.4%	253	0%	324
5 - 6 contacts	20.3%	236	15.8%	273	0%	25	2.5%	40	2.6%	38	1.5%	66
7+ contacts	24.8%	117	22.4%	201	11.8%	76	10.2%	157	11.5%	122	9.1%	186
$\chi^2(2)$	10.33**		28.15**		*7.98**		9.61**		27.31**		33.24**	
Weeks of pharmacotherapy use												
0-4 weeks	12.4%	500	9.0%	702	2.8%	72	3.7%	136	0%	243	0%	318
5 - 6 weeks	20.9%	177	13.0%	192	3.8%	52	7.0%	100	4.9%	41	1.5%	67
7+ weeks	24.9%	225	22.0%	273	33.3%	15	16.1%	31	10.9%	129	8.9%	191
$\chi^2(2)$	19.15**		30.04**		20.09**		6.67*		26.78**		31.89**	
Weeks of NRT use												
0 - 4 weeks	10.4%	249	7.6%	343	5.1%	78	4.5%	154	0%	243	0%	318
5- 6 weeks	20.8%	125	13.4%	164	2.2%	46	8.3%	84	4.9%	41	1.5%	68
7+ weeks	26.2%	168	22.6%	217	26.7%	15	10.3%	29	10.9%	129	8.9%	190
$\chi^2(2)$	18.13**		25.78**		11.74**		2.17, NS		26.78**		32.15**	
Weeks of bupropion/ varenicline use												
0- 4 weeks	7.5%	106	6.3%	95	5.4%	129	5.8%	242	3.9%	413	3.1%	576
5-6 weeks	20.8%	48	12.5%	24	11.1%	9	0%	17	0%	0	0%	0
7+ weeks	23.1%	52	19.6%	56	100.0%	1	37.5%	8	0%	0	0%	0
$\chi^2(2)$	8.74*		6.21*		*15.00***		14.30**					

Table 7: Predictors of cessation outcomes at 4 and 52 weeks in North Cumbria and Nottingham

Predictors in the model	**Model 1:** ***Predicting 4 week cessation outcomes*** **$\chi^2(10) = 105.616$ $p<.001$** **Odds ratios (95% confidence intervals)**	**Model 2:** ***Predicting 52 week cessation outcomes*** **$\chi^2(10) = 84.222$ $p<.001$** **Odds ratios (95% confidence intervals)**
Gender		
Male		1.50 (1.07-2.10)
Female		1.00
Age	1.03 (1.02-1.04)	1.04 (1.02-1.06)
Free prescriptions		
Exempt	1.00	1.00
Pays for prescriptions	1.63 (1.30 -2.04)	1.51 (1.03-2.21)
Housing tenure		
Rents		1.00
Other tenures		1.40 (0.96-2.05)
Age left school		
at 15	1.27 (0.97-1.67)	0.70 (0.46-1.05)
at 16	1.00	1.00
Lives with		
non-smokers	1.36 (1.08-1.69)	1.40 (0.99-1.97)
smokers	1.00	1.00
Time until first cigarette of the day		
Under 5 minutes	1.00	
5-29 minutes	1.26 (0.98 -1.62)	
30 minutes+	1.65 (1.18 -2.31)	
Ease of 24 hour abstinence from smoking		
Easy	1.58 (1.12 - 2.22)	
Difficult	1.00	
Determination to quit smoking		
Extremely determined	1.35 (1.07-1.69)	1.74 (1.25-2.43)
Not determined	1.00	1.00
Number of quits in the last year		
0-1	1.42 (1.04 – 1.92)	
2+	1.00	
Self-reported health in the last year		
Bad	1.00	
Good	1.32 (1.02 – 1.71)	
Weeks of service and pharm use		
0-4		1.00
5-6		1.92 (1.26-2.91)
7+		2.79 (1.87 -4.16)

relationship between weeks of NRT use and 52 week cessation outcomes for both sexes (in all samples except the Glasgow group sample, see Table 6). Therefore although women had lower cessation outcomes compared to men when using NRT; using NRT for longer periods of time increased cessation success amongst women. A dose response relationship was also found for both sexes in all samples; between 52 week cessation outcomes and the use of buproprion, varenicline and NHS cessation support. Sex differences in quit rates only existed for those who used 1-1 cessation support. However, caution is advised interpreting this finding due to the small number of smokers that used group support (n=64) in North Cumbria and Nottingham.

Regression analyses were conducted to understand whether gender was responsible for the difference in quit rates between men and women. Analyses showed that other factors such as age, paying for prescriptions, determination to quit smoking and living with non-smokers predicted smoking cessation outcomes at 4 and 52 weeks (see Table 7). Markers of addiction (time taken before smoking the first cigarette of the day and ease of 24 hour abstinence), making fewer quit attempts and reporting good health in the previous year also predicted 4 week smoking cessation outcomes. These factors did not predict 52 week smoking cessation outcomes; instead gender and the amount of pharmacotherapy and service use predicted smoking cessation at 52 weeks. Both regression models provided a good fit of the dataset (4 weeks, $\chi^2(10) = 105.610$ $p<.001$; $p<.001$; 52 weeks, $\chi^2(10) = 84.222$ $p<.001$). However, cases that contained missing data were excluded from the regression analyses (4 weeks 15.9%; 52 weeks, 18.9%) which could affect the reliability of results. The 52 week regression model contained outliers; which were retained in the model as they had no effect on the final model.

In summary women in North Cumbria and Nottingham did have lower quit rates compared to men. However at 4 weeks gender did not appear to be responsible for this sex difference suggesting that other factors may have a role in the reduced cessation outcomes of women.

4.1.2 Do sex differences exist in smoking behaviour and access to NHS cessation services?

More women than men used all of the stop smoking services (see Table 8). However, this increased access by women did not translate into improved cessation outcomes.

Drawing from the literature review in Chapter 2 the following factors were identified as having an important impact upon cessation outcomes; demographics, level of deprivation, markers of addiction, interpersonal characteristics and use of pharmacotherapy and cessation support. This section explores whether differences exist between men and women in relation to these factors in an attempt to understand why women might be less likely to successfully quit smoking compared to men.

i) Age

In North Cumbria and Nottingham, women were significantly younger than men. The previous regression analyses showed that being older was associated with cessation success which could explain why women might have lower cessation outcomes compared to men in North Cumbria and Nottingham. Women that used the Glasgow 1-1 service were slightly older than men that used this service and no sex differences existed at all between the ages of men and women who used the Glasgow group intervention; suggesting that no consistent pattern existed across services in terms of age and gender.

Table 8: Sex differences in access to the stop smoking services in Glasgow, North Cumbria and Nottingham

	North Cumbria/ Nottingham		**Glasgow Group**		**Glasgow 1-1**	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**
Gender	43.6% (n= 902)	56.4% (n= 1167)	34.2% (n= 139)	65.8% (n= 267)	41.8% (n=413)	58.2% (n= 576)
Age						
Under 18 (under 25 in Glasgow)	0.3% (n=3)	1.1% (n=13)	2.2% (n=3)	1.1% (n=3)	7.3% (n=30)	6.1% (n=35)
18-34 (25-34 in Glasgow)	23.2% (n=209)	27.8% (n=325)	12.2% (n=17)	11.6% (n=31)	20.6% (n=85)	21.7% (n=125)
35-44	23.0% (n=207)	22.8% (n=266)	20.9% (n=29)	21.7% (n=58)	32.0% (n=132)	22.2% (n=128)
45-59	30.0% (n=270)	29.6% (n=345)	43.2% (n=60)	41.6% (n=111)	26.2% (n=108)	30.4% (n=175)
60+	23.4% (n=211)	18.7% (n=218)	21.6% (n=30)	24.0% (n=64)	14.0% (n=58)	19.6% (n=113)
Mean age (std dev)	46.72 (14.48)	44.77 (14.86)	49.59 (12.64)	49.93 (12.85)	43.17 (13.73)	45.23 (14.19)
Age range of service users	16-82 years	16-85 years	20-79 years	16-81 years	16-83 years	16-78 years
T-test	$t(2065)= 3.00$, $p =.003$		$t(404)=-0.25$, $p = .800$		$t(987)=-2.28$, $p = .023$	

ii) Deprivation

Women who used stop smoking services in North Cumbria and Nottingham appeared to experience more markers of disadvantage compared to men (see Table 9). In particular, women were significantly more likely than men to live in the 40% and 20% most deprived neighbourhoods using the IMD and were significantly more likely than men to live in rented accommodation instead of being homeowners. Women in the Nottingham, North Cumbria and the Glasgow group sample were more likely than men to be the sole adult within a household (see Table 10 for information about household composition). Furthermore, women in all samples were more likely than men to live with children and be classified as single parents; suggesting that women who used cessation support had different household circumstances compared to men. Women in the North Cumbria, Nottingham and the Glasgow 1-1 sample were more likely than men to be classified as working, studying or caring (vs. being classified as unemployed, disabled or sick). Given the previous findings it is likely that this result reflects the increased caring responsibilities of women rather than an increased likelihood of being in employment or within education. Lastly, women (excluding those who were retired) in all samples were significantly more likely than men to be exempt from prescription charges (reflecting low income or ill health).

iii) Markers of addiction

Few differences existed between men and women in terms of markers of nicotine addiction (see Table 11). In all samples there was no difference between men and women in the amount of time taken before smoking their first cigarette of the day or the difficulty reported in abstaining from smoking for 24 hours. Women in North Cumbria and Nottingham smoked significantly fewer cigarettes each day compared to men; and were significantly more likely than men to endorse the statement that they smoked to help them cope rather than smoking for pleasure or equal amounts of pleasure and coping. These differences did not exist in either of the Glasgow samples; although, women in Glasgow also appeared more likely than men to state that they smoked in order to cope; however, this difference was not statistically significant.

iv) Interpersonal characteristics

Women in the North Cumbria, Nottingham and Glasgow 1-1 sample were more likely

Table 9: Socioeconomic characteristics of men and women accessing cessation services in Glasgow, North Cumbria and Nottingham

	North Cumbria/Nottingham		Glasgow group		Glasgow 1-1	
	Male	**Female**	**Male**	**Female**	**Male**	**Female**
Resides in the 20% most deprived neighbourhoods						
Most deprived	41.6% (n = 375)	48.3% (n = 564)	44.6% (n = 62)	46.1% (n = 123)	55.4% (n = 229)	57.8% (n = 333)
Other quintiles	58.4% (n = 527)	51.7% (n = 603)	55.4% (n = 77)	53.9% (n = 144)	44.6% (n = 184)	42.2% (n = 243)
$\chi^2(1)$	9.37**		0.08, NS		0.55, NS	
Resides in the 40% most deprived neighbourhoods						
Most deprived	66.0% (n = 595)	72.4% (n = 845)	57.6% (n = 80)	64.4% (n = 172)	74.8% (n = 309)	75.2% (n = 433)
Other quintiles	34.0% (n = 307)	27.6% (n = 322)	42.4% (n = 59)	35.6% (n = 95)	25.2% (n = 104)	24.8% (n = 143)
$\chi^2(1)$	9.98**		1.83, NS		0.02, NS	
Housing Tenure						
Rents	37.6% (n = 320)	62.4% (n = 530)	40.3% (n = 56)	36.5% (n = 97)	58.6% (n = 242)	55.6% (n = 319)
Other	45.1% (n = 506)	54.9% (n = 615)	59.7% (n = 83)	63.5% (n = 169)	41.4% (n = 171)	44.4% (n = 255)
$\chi^2(1)$	11.14**		0.57, NS		0.89, NS	
Entitled to free prescriptions						
Pay	63.7% (n = 438)	47.2% (n = 447)	67.6% (n = 73)	55.2% (n = 112)	44.8% (n = 159)	31.7% (n = 147)
Free	36.3% (n = 250)	52.8% (n = 501)	32.4% (n = 35)	44.8% (n = 91)	55.2% (n = 196)	68.3% (n = 316)
$\chi^2(1)$	43.77**		4.51*		14.59**	
Age left school						
15 or under	40.0% (n = 344)	39.6% (n = 444)	36.7% (n = 51)	40.8% (n = 108)	31.9% (n = 131)	33.6% (n = 193)
16 or over	60.0% (n = 517)	60.4% (n = 676)	63.3% (n = 517)	59.2% (n = 157)	68.1% (n = 280)	66.4% (n = 382)
$\chi^2(1)$	0.02, NS		0.63, NS		0.31, NS	
Employment status						
Work/study/caring/ other	76.0% (n = 654)	83.3% (n = 936)	81.2% (n = 112)	84.6% (n = 225)	63.7% (n = 247)	70.6% (n = 379)
Permanently sick/disabled/unemployed	24.0% (n = 207)	16.7% (n = 188)	18.8% (n = 26)	15.4% (n = 41)	36.3% (n = 141)	29.4% (n = 158)
$\chi^2(1)$	16.37**		0.77, NS		4.93*	

Table 10: The household composition of men and women accessing cessation services in Glasgow, North Cumbria and Nottingham

	North Cumbria/Nottingham		Glasgow group		Glasgow 1-1	
	Male	**Female**	**Male**	**Female**	**Male**	**Female**
Number of adults in a household						
1	18.9% (n = 164)	28.3% (n = 318)	29.2% (n =40)	37.2% (n = 99)	30.8% (n = 127)	39.0% (n = 222)
2	61.1% (n = 529)	55.8% (n = 628)	43.1% (n = 59)	38.7% (n = 103)	46.8% (n = 193)	41.3% (n = 235)
3	12.9% (n = 112)	10.4% (n = 117)	16.8% (n = 23)	15.0% (n = 40)	15.3% (n = 63)	14.1% (n = 80)
4	5.7% (n = 49)	4.5% (n = 54)	9.5% (n = 13)	7.5% (n = 20)	5.8% (n = 24)	4.4% (n = 25)
5+	1.3% (n = 12)	1.0% (n = 11)	1.5% (n = 2)	1.5% (n = 4)	1.1% (n = 5)	1.3% (n = 7)
Mann Whitney	*p* <.001**		*p =.139, NS*		*p =.017**	
Number of children in a household						
0	69.5% (n = 596)	59.6% (n = 667)	85.4% (n = 117)	72.2% (n = 192)	70.2% (n = 290)	59.0% (n = 337)
1	12.5% (n = 107)	18.3% (n = 205)	7.3% (n = 10)	18.0% (n = 48)	13.1% (n = 54)	21.9% (n = 125)
2	12.5% (n = 107)	14.9% (n = 167)	5.1% (n = 7)	6.4% (n = 17)	12.1% (n = 50)	14.0% (n = 80)
3	3.5% (n = 30)	4.8% (n = 54)	1.5% (n = 2)	2.3% (n = 6)	4.1% (n = 17)	3.3% (n = 19)
4+	2.0% (n = 18)	2.3% (n = 26)	0.7% (n = 1)	1.2% (n = 3)	0.5% (n = 2)	1.9% (n = 10)
Mann Whitney	*p* <.001**		*p* = .005**		*p* = .002**	
Single parent status						
Yes	1.4% (n = 12)	11.0% (n = 123)	0%	8.6% (n = 23)	3.6% (n = 15)	16.5% (n = 94)
No	98.6% (n = 849)	89.0% (n = 999)	100% (n = 137)	91.4% (n = 243)	96.4% (n = 397)	83.5% (n = 475)
$\chi^2(1)$	70.31**		12.56**		40.14**	
Lives with a partner						
No	31.0% (n = 271)	42.6% (n = 486)	37.4% (n = 52)	53.0% (n = 141)	45.8% (n = 189)	55.1% (n = 315)
Yes	69.0% (n =604)	57.4% (n = 656)	62.6% (n = 87)	47.0% (n = 125)	54.2% (n = 224)	44.9% (n = 257)
$\chi^2(1)$	28.36**		8.90**		8.32**	

Table 11: Markers of addiction of clients accessing the stop smoking services in Glasgow, North Cumbria and Nottingham

	North Cumbria/ Nottingham		Glasgow group		Glasgow 1-1	
	Male	**Female**	**Male**	**Female**	**Male**	**Female**
Time until first cigarette of the day*						
Under 5 (6) minutes	34.9% (n = 313)	34.3% (n = 397)	47.8% (n = 66)	55.6% (n =144)	56.1% (n = 230)	57.7% (n = 329)
Between 5 (6) – 29 (30) minutes	48.7% (n = 436)	47.3% (n =547)	37.7% (n = 52)	32.4% (n =84)	27.3% (n = 112)	27.9% (n = 159)
Over 30 (31) minutes	16.4% (n = 147)	18.3% (n = 212)	14.5% (n = 20)	12.0% (n = 31)	16.6% (n = 68)	14.4% (n = 82)
$\chi^2(2)$	1.32, NS		2.20, NS		0.89, NS	
Number of cigarettes smoked per day						
10 or less	11.3% (n = 97)	13.6% (n = 156)	9.4% (n = 13)	13.0% (n = 34)	13.1% (n = 54)	13.9% (n = 80)
11-20	41.5% (n = 356)	49.7% (n = 571)	44.6% (n = 62)	47.7% (n =125)	43.7% (n = 180)	48.2% (n = 277)
21+	47.2% (n = 405)	36.7% (n = 422)	46.0% (n = 64)	39.3% (n = 103)	43.2% (n = 178)	37.9% (n = 218)
$\chi^2(2)$	22.25**		2.19, NS		2.83, NS	
Ease of going a whole day without smoking						
Easy	12.9% (n = 115)	12.8% (n = 147)	12.3% (n = 17)	12.2% (n = 32)	14.1% (n = 57)	10.9% (n = 61)
Difficult	87.1% (n =775)	87.2% (n = 1000)	87.7% (n =121)	87.8% (n =230)	85.9% (n = 348)	89.1% (n = 501)
$\chi^2(1)$	0.01, NS		0.00, NS		2.28, NS	
Reason for smoking						
Pleasure or equal amounts of pleasure/ coping	82.4% (n = 673)	76.7% (n = 822)	86.3% (n = 120)	81.4% (n = 215)	80.9% (n = 330)	76.4% (n = 431)
Coping	17.6% (n = 144)	23.3% (n = 250)	13.7% (n = 19)	18.6% (n = 49)	19.1% (n = 78)	23.6% (n = 133)
$\chi^2(1)$	9.11**		1.55, NS		2.78, NS	

Table 12: Interpersonal characteristics of clients accessing stop smoking services in Glasgow, North Cumbria and Nottingham

	North Cumbria/Nottingham		Glasgow Group		Glasgow 1-1	
	Male	**Female**	**Male**	**Female**	**Male**	**Female**
Number of quit attempts in the previous year						
0-1	85.7% (n = 772)	85.5% (n = 994)	66.7% (n = 92)	60.8% (n = 158)	77.3% (n = 314)	78.7% (n = 440)
2+	14.3% (n = 129)	14.5% (n = 169)	33.3% (n = 46)	39.2% (n = 102)	22.7% (n = 92)	21.3% (n = 119)
$\chi^2(1)$	0.02, NS		1.34, NS		0.89, NS	
Self-reported health in the previous year						
Good	68.1% (n = 599)	66.5% (n = 751)	73.1% (n = 101)	69.2% (n = 180)	77.7% (n = 321)	72.5% (n = 417)
Bad	31.9% (n = 281)	33.5% (n = 379)	26.3% (n = 36)	30.8% (n = 80)	22.3% (n = 92)	27.5% (n = 158)
$\chi^2(1)$	0.58, NS		0.88, NS		3.44, NS	
Determination to quit						
Not at all/quite/ or very determined	63.4% (n = 558)	62.3% (n = 703)	65.5% (n = 91)	60.7% (n = 162)	64.2% (n = 265)	65.5% (n = 376)
Extremely determined	36.6% (n = 322)	37.7% (n = 425)	34.5% (n = 48)	30.8% (n = 80)	35.8% (n = 148)	34.5% (n = 198)
$\chi^2(1)$	0.25, NS		0.89, NS		0.19, NS	
Other smokers in the household						
No smokers	61.3% (n = 541)	58.1% (n = 666)	57.5% (n = 77)	58.0% (n = 152)	55.2% (n = 228)	56.7% (n = 325)
Other smokers	38.7% (n = 342)	41.9% (n = 481)	42.5% (n = 57)	42.0% (n = 110)	44.8% (n = 185)	43.3% (n = 248)
$\chi^2(1)$	2.13, NS		0.01, NS		0.22, NS	
Feels supported to quit smoking						
No	10.1% (n = 91)	7.0% (n = 82)	14.4% (n = 20)	15.4% (n = 41)	27.8% (n = 115)	21.4% (n = 123)
Yes	89.9% (n = 810)	93.0% (n = 1083)	85.6% (n = 119)	84.6% (n = 226)	72.2% (n = 298)	78.6% (n = 452)
$\chi^2(1)$	6.21*		0.07, NS		5.48*	

Table 13: The characteristics of service use of men and women in Glasgow, North Cumbria and Nottingham

	North Cumbria/Nottingham		Glasgow Group		Glasgow 1-1	
	Male	**Female**	**Male**	**Female**	**Male**	**Female**
Intervention type						
Group	3.6% (n = 32)	2.8% (n = 32)				
1-1	96.4% (n = 849)	97.2% (n = 1121)				
$\chi^2(1)$	1.20, NS					
Pharmacotherapy used						
None	2.1% (n = 19)	2.5% (n = 28)	2.2% (n = 3)	2.2% (n = 6)	0.5% (n = 2)	0.2% (n = 1)
NRT	74.6% (n = 662)	81.7% (n = 906)	84.9% (n = 118)	79.0% (n =211)	99.5% (n = 411)	99.7% (n = 574)
Bupropion/ Varenicline	23.2% (n = 206)	15.8% (n = 175)	12.9% (n = 18)	18.7% (n = 50)	0%	0.2% (n = 1)
$\chi^2(2)$	17.74**		2.23, NS		1.48, NS	
Referral source						
Self	49.9% (n = 448)	54.3% (n = 629)	41.5% (n = 54)	37.8% (n = 93)	74.3% (n = 307)	74.0% (n = 426)
Gp/Other	50.1% (n = 450)	45.7% (n = 530)	58.5% (n = 76)	62.2% (n = 53)	25.7% (n = 106)	26.0% (n = 150)
$\chi^2(1)$	3.90*		0.50, NS		0.02, NS	
Number of contacts with the service						
0-4 weeks	59.7% (n = 524)	57.6% (n = 643)	27.3% (n =38)	26.2% (n = 70)	61.3% (n = 253)	56.3% (n = 324)
5-6 weeks	26.9% (n = 236)	24.4% (n =273)	18.0% (n = 25)	15.0% (n =40)	9.2% (n = 38)	11.5% (n = 66)
7+ weeks	13.3% (n = 117)	18.0% (n = 201)	54.7% (n = 76)	58.8% (n = 157)	29.5% (n = 122)	32.3% (n = 186)
$\chi^2(2)$	8.25*		0.83, NS		2.79, NS	
Weeks of pharmacotherapy use						
0-4 weeks	55.4% (n = 662)	60.2% (n = 702)	51.8% (n = 72)	50.9% (n = 136)	58.8% (n = 243)	55.2% (n = 318)
5-6 weeks	19.6% (n = 177)	16.5% (n = 192)	37.4% (n = 52)	37.5% (n = 100)	9.9% (n = 41)	11.6% (n = 67)
7+ weeks	24.9% (n = 225)	23.4% (n = 273)	10.8% (n = 15)	11.6% (n = 31)	31.2% (n = 129)	33.2% (n = 191)
$\chi^2(2)$	5.33, NS		0.07, NS		1.47, NS	

than men to state that they felt supported to quit smoking (see Table 12). It remains unclear why feeling more supported to quit smoking would translate into lower chances of cessation success for women in North Cumbria and Nottingham. No sex differences existed in terms of any of the other characteristics; the majority of clients in all samples made less than one quit attempt and reported having good health in the previous year. Determination to quit smoking and living with a non-smoker were positively associated with quitting success in the previous regression analyses. However, as men and women who accessed cessation support reported similar levels of determination to quit smoking and most lived with non-smokers it is unlikely that these factors are responsible for the sex differences in cessation success.

v) Service use characteristics

Women were significantly more likely than men to self-refer into the North Cumbria and Nottingham cessation services (Table 13). Such sex differences did not exist in either of the Glasgow samples. The most commonly used intervention format for all samples was the 1-1 intervention and NRT was the most commonly used pharmacotherapy option in all samples. However, in North Cumbria and Nottingham men were more likely than women to have used bupropion.

No sex differences existed with regards to overall weeks of pharmacotherapy use. The majority of men and women in all samples used pharmacotherapy for under one month (the recommended time for pharmacotherapy use is 12 weeks). However, sex differences existed in the North Cumbria and Nottingham sample in terms of the amount of contact that clients had with cessation support staff; whereby women were more likely to have increased contact with cessation support staff. However, this increased use of cessation services did not translate into an increase in cessation outcomes; such differences did not exist in either of the Glasgow samples.

The key difference between men and women in all samples appeared to be related to their experience of deprivation and household circumstances.

4.1.3 Are different factors associated with cessation success in women compared to men?

Table 14: Predictors of cessation outcomes at 4 weeks for women and men

Predictors	**Women** **Odds ratios** **(95% confidence intervals)**	**Men** **Odds ratios** **(95% confidence intervals)**
Age	1.01 (1.01-1.05)	1.03 (1.02 – 1.05)
Free prescriptions	1.00	1.00
Pays for prescriptions	1.46 (1.10 -1.94)	1.56 (1.08 – 2.27)
Rents		1.00
Home owner		1.45 (1.00 – 2.08)
Lives with smokers		1.00
Lives with non-smokers		1.54 (1.10 – 2.16)
Time until first cigarette of the day		
Under 5 minutes	1.00	
5-29 minutes	1.28 (0.93 -1.77)	
30 minutes+	1.80 (1.18 -2.74)	
Number of quits in the last year		
0-1	1.61 (1.09 - 2.39)	
2+	1.00	
Ease of 24 hour abstinence from smoking		
Easy	1.73 (1.11 – 2.71)	
Difficult	1.00	
Self-reported health in the last year		
Bad	1.00	
Good	1.33 (0.97 – 1.83)	

Table 15: Predictors of cessation outcomes at 52 weeks for women, men and disadvantaged women

Predictors	**Women** **Odds ratio (95% confidence intervals)** **$\chi^2(7) = 47.482$ $p<.001$**	**Men** **Odds ratios** **(95% confidence intervals)** **$\chi^2(5) = 40.76$ $p<.001$**
Age	1.02 (1.00-1.04)	1.06 (1.03 – 1.08)
Free prescriptions	1.00	1.00
Pays for prescriptions	1.72 (1.09 -2.70)	1.75 (0.96 – 3.21)
Housing tenure		
Rents		1.00
Other tenure		1.64 (0.92 -2.92)
Lives with: *smokers*	1.00	
non-smokers	1.57 (1.00 – 2.48)	
Number of cigarettes per day		
10 or less	2.56 (1.30 -5.06)	
11-20	1.52 (0.92 – 2.52)	
30 minutes+	1.00	
Reason for smoking		1.00
Coping		3.22 (1.47 – 7.05)
Coping and pleasure		1.00
Feels*: unsupported to quit*		10.96 (1.35 – 89.09)
Single and feels supported to quit		12.75 (1.68 – 96.96)
In a relationship and feels supported to quit		
Service use		1.00
0-4 weeks	1.00	1.79 (1.01 – 3.18)
5-6 weeks	2.25 (1.22 -4.13)	2.94 (1.62 – 5.34)
7+ weeks	3.92 (2.28 -6.76)	

Given these differences, all variables were entered into regression analyses to see if different factors predicted smoking cessation outcomes in women compared to men.

All regression models provided a good fit of the raw data (*women:* 4 weeks, $\chi^2(7) = 51.75$ $p<.001$, 52 weeks, $\chi^2(7) = 49.051$, $p< 001$; *men:* 4 weeks, $\chi^2(5) = 40.760$ $p<.001$, 52 weeks, $\chi^2(8) = 63.750$ $p<.001$) and excluded a percentage of missing data (*women:* 4 weeks - 11.8%, 52 weeks - 9.4% ; *men*: 4 weeks – 12.0%, 52 weeks - 4.8%). The 52 week regression models contained outliers. However, outliers were only removed from the male 52 week regression model as leverage values showed that outliers were having an undue influence on that model. The predictors of 4 and 52 week smoking cessation outcomes are displayed in Tables 14 and 15. Age and paying for prescriptions predicted smoking cessation outcomes in women at 4 and 52 weeks. Furthermore making one or no quit attempts in the past year also predicted 4 week smoking cessation success in women. Markers of addiction appeared to be strongly associated with smoking cessation outcomes in women, with time until first cigarette of the day, ease of 24 hour abstinence and number of cigarettes smoked each day predicting smoking cessation success. Living with non-smokers and increased use of pharmacotherapy and cessation support also predicted smoking cessation outcomes at 52 weeks in women.

Age, paying for prescriptions and increased use of pharmacotherapy and cessation support also predicted smoking cessation outcomes in men. However, the impact that increased use of cessation support and pharmacotherapy had on cessation outcomes appeared to be slightly larger for women (3.92 vs. 2.74). Such a finding is puzzling as it indicates that NHS cessation support may be slightly more effective for women compared to men. No markers of addiction were associated with smoking cessation outcomes in men. Instead markers of deprivation appeared to be of more important; as housing tenure and living with non-smokers predicted smoking cessation outcomes in men. Two unique predictors of smoking cessation outcomes for men were their primary reason for smoking (pleasure vs. coping) and their relationship status and whether they felt supported to quit smoking.

4.1.4 What role does disadvantage play in smoking cessation in women who use NHS support?

Disadvantage was surprising absent as a predictor of smoking cessation success for

Table 16: Associations between markers of deprivation and addiction in women in North Cumbria and Nottingham

	Time until first cigarette of the day			**Number of cigarettes per day**		
	Under 5 minutes	*6-29 minutes*	*30 minutes +*	*Under 10*	*11-20*	*21+*
Lives in the most deprived quintile						
Yes	38.8% (n = 175)	42.8% (n =193)	18.4% (n= 83)	10.7% (n = 48)	49.4% (n = 221)	39.8% (n =178)
No	30.5% (n = 150)	48.5% (n = 238)	21.0% (n =103)	13.5% (n = 66)	51.0% (n = 250)	35.3% (n = 174)
$x^2(2)$		7.09*			2.71, NS	
Free prescription entitlement						
Yes	38.3% (n = 190)	43.1% (n = 214)	18.5% (n = 92)	13.9% (n = 69)	48.0% (n = 238)	38.1% (n = 189)
No	30.3% (n = 135)	48.8% (n = 217)	20.9% (n = 93)	10.2% (n = 45)	53.0% (n = 233)	36.8% (n = 162)
$x^2(2)$		6.59*			3.85, NS	
Housing tenure						
Rents	40.0% (n = 171)	41.1% (n = 177)	18.7% (n = 80)	10.6% (n = 45)	47.2% (n = 200)	42.2% (n = 179)
Other	28.8% (n = 139)	50.8% (n = 245)	20.3% (n = 98)	13.6% (n = 65)	52.5% (n = 251)	33.9% (n = 162)
$x^2(2)$		12.92**			7.04*	

women. Instead addiction appeared to be of more importance to women. Therefore, this section examines whether there was any association between experiencing markers of deprivation and addiction for women (see Table 16).

There was a significant association between time until first cigarette of the day and living within the most deprived deprivation quintile, free prescription entitlement and living in rented accommodation. Furthermore, the number of cigarettes smoked per day was significantly associated with housing tenure, whereby living in rented accommodation was associated with smoking an increased number of cigarettes each day. These findings suggest that experiencing markers of deprivation might be associated with increased addiction. It is hypothesized that this is a pathway through which deprivation may be impacting upon women's cessation outcomes.

4.2 DISCUSSION

This analysis showed mixed results about whether women were less successful at quitting smoking compared to men who used NHS cessation support. In North Cumbria and Nottingham, women achieved lower cessation outcomes compared to men. These sex differences were not observed in either of the Glasgow services. However, both Glasgow services had a much lower quit rate compared to North Cumbria and Nottingham. Moreover, men and women who used the Glasgow 1-1 intervention were more likely to experience markers of disadvantage such as residing in the 40% most deprived neighbourhoods, entitlement to free prescriptions, and being a single parent. Furthermore, men and women using both Glasgow services appeared to be more addicted (i.e. they took less time after waking before smoking their first cigarette of the day and smoked more cigarettes each day) compared to men and women using cessation support in North Cumbria and Nottingham. Lastly men and women using the Glasgow services felt less supported to quit smoking compared to clients in North Cumbria and Nottingham. These factors may explain the significantly lower quit rates observed in Glasgow and could explain why no sex differences existed between men and women in terms of cessation outcomes. As these crucial differences existed between the North Cumbria/Nottingham sample and the two Glasgow samples and because national monitoring data has consistently reported lower cessation rates for women compared to men when using NHS cessation support at 4 weeks (ISD Scotland, 2011; The

Information Centre, 2012); it is likely that the Glasgow result is an anomaly. Therefore, the remainder of this discussion will examine why women are less likely to quit smoking compared to men when using NHS cessation support.

It has been argued that women who access cessation support represent an atypical clinical sample and their lower quit rates can be explained by age differences between men and women accessing cessation support (Jarvis, et al., 2012). Women in North Cumbria and Nottingham were significantly younger than men who accessed cessation services. Moreover, age was consistently observed to be a significant predictor of smoking cessation outcomes at 4 and 52 weeks. The effect of age on smoking cessation outcomes has been well supported in wider literature and was discussed in Chapter 2 (Bauld, et al., 2010; Ferguson, et al., 2005; Heeley, 2008; Judge, et al., 2005; Osler & Prescott, 1998; The Information Centre, 2011c; West, et al., 2009). National data from the English stop smoking services showed that women had lower cessation outcomes at 4 weeks compared to men within every age bracket (The Information Centre, 2012). This suggests that although age could contribute to the sex differences in cessation outcomes it does not appear to be solely responsible for women having lower cessation outcomes compared to men.

The findings of this study indicated that women who accessed cessation services appeared to experience more markers of disadvantage compared to men. Women in North Cumbria and Nottingham were more likely than men to live in a deprived neighbourhood and were significantly less likely than men to be homeowners. Such differences were mirrored in Glasgow but did not reach statistical significance. However, women in all samples were significantly more likely than men to be entitled to free prescriptions, which is potentially a marker of low income. Furthermore, women were significantly more likely than men to live with children and be single parents. As highlighted in Chapter 2, the experience of disadvantage can interact powerfully with gender to influence a woman's lifecourse trajectory. Women that experience early motherhood or who are single parents are likely to be exposed to multiple markers of deprivation which can result in financial hardship and poor psychological health (Hobcraft & Kiernan, 1999; Hope, et al., 1999; Khlat, et al., 2000; Lipman, et al., 1997; Macran, et al., 1996; ONS, 2009; Suhrcke, et al., 2009; Targosz, et al., 2003; Weitoft, et

al., 2002; Whitehead, et al., 2000). Suhrcke et al (2009) argued that lone mothers have poor health because they experience a combination of material and psychosocial deprivation such as poor housing conditions, deprived neighbourhoods, increased incidence of violence and less access to social support which can result in social isolation. It is likely that some of the women in the secondary data analysis were also at an increased risk of experiencing other markers of disadvantage such as having a poor education or being unemployed or in a low paid job which could restrict the availability of material resources. However, such detailed information is not routinely collected by NHS stop smoking services so further research should seek to clarify if this is the case.

It was hypothesized that the exposure to multiple markers of deprivation by women would explain their lower quit rates compared to men. However, within this analysis measures of deprivation did not appear to be strong predictors of cessation outcomes (with the exception of free prescription entitlement which consistently predicted cessation outcomes for both men and women). This was unexpected as the deprivation gradient in smoking cessation has been well established (Hiscock, et al., 2012; Hiscock, et al., 2010; Kotz & West, 2009; ONS, 2010b, 2011b). Moreover, the experience of multiple markers of disadvantage has been highlighted to have a negative impact upon cessation outcomes (Hiscock, et al., 2012).

Although women were experiencing more markers of deprivation compared to men; disadvantage did not appear to be a determinant of cessation success amongst women. However, disadvantage may impact indirectly on the smoking cessation outcomes in women through another pathway. An association existed between experiencing markers of disadvantage and increased nicotine addiction in women. The relationship between disadvantage and increased nicotine addiction has been documented in wider literature (Jarvis & Wardle, 2006; Siahpush, McNeill, Borland, et al., 2006). An international study which examined the relationship between nicotine dependence and socioeconomic status in the UK, USA, Canada and Australia found that having a lower education and lower income was associated with increased nicotine dependence (Siahpush, McNeill, Borland, et al., 2006). It is possible that disadvantage acts to reduce the cessation outcomes of women through increasing the likelihood of them being more dependent upon nicotine.

Within this analysis men and women did not appear to be different in relation to markers of nicotine addiction. However, markers of addiction such as the time taken until smoking the first cigarette of the day, ease of 24 hour abstinence from smoking and the number of cigarettes smoked each day predicted smoking cessation outcomes in women but not men. This suggests that markers of addiction are important mediators of cessation success in women. Such a finding is unexpected as wider literature has suggested that men and women have a differential experiences of addiction (Payne, 2001; Perkins, 1996; Perkins, et al., 2001; Perkins, et al., 1992), whereby the addictive properties of nicotine have been argued to be less important to women when maintaining smoking behaviour. Instead it is argued that situational cues and contexts play a bigger role in tobacco dependence in women.

Within this analysis sex differences in quit rates were only observed for women when they used NRT to help them quit smoking. This finding has been replicated by wider research; which has argued that NRT is less effective for women compared to men (Perkins, 1996, 2001; Perkins, et al., 1999; Perkins, et al., 2001; Perkins & Scott, 2008) as the addictive properties of nicotine are less important to women when quitting smoking. The findings of this investigation appear to be contradictory; if addiction factors are more important to women, then it would be expected that NRT would be effective in assisting women to quit smoking. Furthermore, a wealth of qualitative literature has showed that the contexts associated with smoking appear to be important in the maintenance of smoking behaviour for women. In particular research has showed that women use smoking as a way of coping with the demands of caring for children (Graham, 1987, 1993; Greaves, 1996; Stewart, et al., 1996). Within this analysis women were more likely than men to state that they smoked in order to cope rather than for pleasure. However, this variable was not associated with lower cessation outcomes in women. Based on these findings an identified need exists to examine women's experiences of smoking and addiction to explore the role that addiction and situational contexts have in the maintenance of smoking behaviour amongst women. The next study within this thesis explores women's experiences of smoking and addiction in depth in an attempt to understand the role that deprivation and addiction has upon women's cessation attempts.

It is recommended that men and women should use pharmacotherapy and access cessation services for periods of 12 weeks (DH, 2012). Within this analysis, using pharmacotherapy and accessing cessation support was related to improved cessation outcomes. This finding has been supported in wider literature (Hughes, et al., 2007; Stead, Perera, et al., 2008). The data analysis suggested that clients of cessation services may not be using pharmacotherapy or cessation support for the recommended periods of time. This is worrying as using pharmacotherapy for longer was associated with cessation success (both in this study) and in Cochrane reviews (Cahill, et al., 2011; Hughes, et al., 2007; Lancaster & Stead, 2008; Stead, Perera, et al., 2008). Therefore a need exists to explore service user's experiences of pharmacotherapy and NHS cessation support. Women are more likely than men to use cessation support (ISD Scotland, 2011; The Information Centre, 2012). Furthermore, women within North Cumbria and Nottingham were more likely to have increased contact with cessation services, but were less likely to quit smoking. This finding highlights a need to explore women's experiences of using NHS cessation support. Chapter 6 presents the results of the qualitative analysis which examined women's experiences of using pharmacotherapy and cessation services. Such findings are valuable in highlighting ways that NHS cessation support could be improved to meet women's needs.

The secondary data analysis showed that women in North Cumbria and Nottingham were less likely to quit smoking compared to men. However, gender did not appear to be the sole determinant of women's reduced cessation success. Women experienced more markers of deprivation but this increased experience of disadvantage did not predict reduced smoking cessation outcomes in women. Markers of addiction were shown to solely be associated with the cessation outcomes of women. Furthermore, the analysis highlighted that the experience of deprivation is associated with increased levels of addiction. These findings suggest a potential pathway through which deprivation could be acting to reduce women's cessation outcomes. However, further research is required to clarify whether this is the case. The next Chapter examines women's experiences of smoking and addiction further to develop understanding about why women may be less likely to quit smoking compared to men.

CHAPTER FIVE: UNDERSTANDING WOMEN'S EXPERIENCES AND PERCEPTIONS OF SMOKING AND ADDICTION

5.1 INTRODUCTION

The previous Chapter presented the results of the secondary data analysis which highlighted that women who used NHS cessation support in North Cumbria and Nottingham were less likely to quit smoking compared to men. Furthermore, the results of the analysis suggested that markers of addiction were important predictors of smoking cessation success in women. Many researchers have argued that women experience nicotine addiction differently to men (Payne, 2001; Perkins, 1996; Perkins, et al., 2001; Perkins, et al., 1992) whereby situational cues and contexts associated with smoking are more reinforcing for women than the physiological properties of nicotine. Therefore, the finding that markers of addiction are important to women was unexpected. A lack of understanding remains about women's experiences of addiction.

A qualitative investigation was conducted whereby 25 women were interviewed and one focus group (n=5) was conducted in an attempt to further understanding of disadvantaged women's experiences of smoking and smoking cessation (details of the sample are provided in Chapter 3 pg57/58). The results of the qualitative research are presented across two Chapters. A key focus of this Chapter is to explore women's experiences of smoking and addiction. Furthermore, the remaining two themes in this Chapter examine women's attitudes towards smoking cessation and the factors that may motivate women to make a quit attempt. Such information is useful in highlighting ways to engage women to quit smoking. The subsequent Chapter examines women's experiences of smoking cessation and their experiences of using NHS cessation support to see whether cessation support is meeting women's needs.

5.2 THEME 1: SMOKING AS AN EMOTIONAL DEPENDENCY

This theme explores women's experiences of smoking and contains three subthemes. Subtheme one explores the way women conceptualised the characteristics of their smoking behaviour. Subtheme two explores women's experiences of smoking and subtheme three examines the contexts and cues that were associated with smoking amongst the women interviewed. It becomes apparent that many of the women

interviewed viewed smoking as a coping mechanism and used it as a '*crutch*' which they leaned upon in times of need. Smoking therefore had personal significance and meaning for many of the women interviewed and became more than an action performed out of addiction or habit. This theme demonstrates how some women may be emotionally dependent upon cigarettes. Two case studies are presented to illustrate in depth the relationship that women may have with cigarettes.

5.2.1 How do women conceptualise their smoking behaviour?

All women interviewed were asked whether they viewed smoking to be a habit or an addiction. Eighteen of the thirty women interviewed believed smoking to be a combination of both habit and addiction. One interviewee stated, *"It's habit with a bit of addiction thrown in"* (P025) and another interviewee felt that smoking started off initially as an addiction and developed into a habitual behaviour. Whereas seven others felt that smoking was purely an habitual action. One woman stated, *"it's a habit, a hard to break habit"* (P019). Five women felt that smoking was purely an addiction as if it was a habit they would be able to alter their behaviour more easily. One interviewee stated, *"I think it's an addiction. If it was a habit, like biting your nails … I think I could control it"* (P023).

It is important to note here that the terms 'addiction and habit' were introduced by the researcher and although elements of addiction and habit were evident in the women's descriptions of their smoking behaviour (see subtheme 2); women's answers were inevitably guided by the question 'do you view your smoking to be part of a habit or an addiction?' The next subtheme outlines women's experiences of smoking. From their descriptions it is possible to see facets of both addiction and habit as regulatory influences on smoking behaviour. The final subtheme within this chapter examines the cues and contexts associated with smoking.

5.2.2 Women's experiences of smoking

Many commonalities appeared to exist in women's descriptions of their smoking behaviour. All women considered smoking to be a priority and for many smoking was one of the first things they did (or previously did) each morning after waking. One woman stated, *"I get up about seven … I open my eyes, I have a cigarette"* (P021) and Participant 6 stated *"it was the first of my routine, go to the loo, come down have a*

cigarette". Participant 11 even joked that it was not the first thing she did after waking as she had to find her glasses first.

Smoking was often reported by the women interviewed to be an unintentional activity. Participant 11 stated, *"I find myself smoking a cigarette and I don't even particularly enjoy it but I still smoke it"* and Participant 18 stated, *"I think it's purely subconscious, they were there so I just smoked them"*, thus highlighting that some women experienced a lack of control over their smoking behaviour. However, the women interviewed were aware of the controlling nature of cigarettes and used powerful and evocative words to describe how they felt *'captured'*, *'chained'* and *'controlled'* by cigarettes within their daily lives. Participant 4 talked about how she felt she was *"on a treadmill on a rota where I have to have a break to have a cigarette"* and Participant 15 discussed a constant preoccupation with cigarettes she stated, *"whatever I did, whether I was at work or shopping, constantly cigarettes were on my mind, and the fact I should be having one"*. This preoccupation was something that was discussed by all women. Participant 7 stated, *"it'll always be in the back of your mind where can you go to have a crafty fag so you're not really kind of … just enjoying … where you are you're constantly thinking about when you can nip out for a fag"*. Such characteristics are likely to represent facets of nicotine addiction.

When asked to describe their smoking behaviour certain cigarettes were given greater emphasis by the interviewees. The women often highlighted their first and last cigarettes of the day and the cigarettes they smoked after meals or with hot drinks to be particularly noteworthy and enjoyable. These cigarettes appeared to be of key importance for the women. Participant 15 stated *"I think the first one of the day was probably the most important one. That got my day going"* and Participant 21 stated *"first thing in a morning as soon as I open my eyes and after something to eat, those cigarettes are crucial"*. Participant 24 stated that she felt certain cigarettes were nicer because they were satisfying cravings for nicotine rather than being habitual cigarettes, she stated,

> *"I think probably at least four or five in the day are habit and not necessary at all, but the others probably are … nicer because you really want them. They are probably satisfying a nicotine hit. They're for a reason. So they actually work,*

whereas sometimes, you will smoke a cigarette and think well I didn't want that at all. I just smoked it because I lit it."

However, not all cigarettes smoked were perceived to be enjoyable. Participant 6 felt that cigarettes smoked to satisfy nicotine urges were less enjoyable than the cigarettes that were smoked after meals, she stated, *"there were other times that you would go out and not enjoy it but just get the nicotine into your system"*. This was reiterated by many of the women interviewed; one interviewee stated, *"it's purely and simply an addiction … if you look at how many cigarettes that you smoke that you actually enjoy, they're very few aren't they?"* (P017) and another service user stated, *"There was probably only three through the day that I would genuinely enjoy"* (P018). Such contrasting opinions reflected the fact that there was no general consensus amongst the interviewees about which cigarettes were important.

Due to their controlling nature, cigarettes often appeared to be a source of stress for women. Participant 15 discussed how she would always be checking whether she had enough money in her purse for her next packet of cigarettes and if not she would head to the bank to get some money to ensure she could buy her cigarettes. Participant 18 stated how cigarettes *"controlled"* her life; *"If I didn't have 10 cigarettes for the next morning I'd panic"*. This sentiment was echoed by Participant 20 who stated,

"If I don't have any cigarettes … I'd be thinking how do I get to the shops and get them that would be my foremost thing before anything else. If I only had one cigarette left at night, I would maybe only have half that cigarette, a few drags in the morning and then go … and get some cigarettes; then I can start living"

The language that these women used to describe how cigarettes took precedence within their lives was very emotive. This is illustrated perfectly by the fact that Participant 20 felt she needed to purchase enough cigarettes for the day before she could *"start living"*.

Although women felt that smoking was something out of their control the majority of women interviewed described the exact times when they smoked cigarettes each day. This ability to pinpoint exact times appeared to occur as a result of developing set routines. Many of the women had routines dictated on them through employment and

therefore smoking was fitted in when possible e.g. *"if you get a break you take the opportunity to get a cigarette"* (P025), and *"I'd sort of time my day around smoking at work … I'd go for two hours then I'd have a break"* (P018). However, not all women within the sample faced daily restrictions on their smoking behaviour; some of the women were unemployed and therefore did not have rigid routines imposed on them throughout the day. For these women smoking became a way of punctuating and breaking up their day. Participant 2 discussed how she would smoke a cigarette when she had finished a task before she started her next chore. This was something that was reiterated by many other women; *"I'd get up and do my chores … and it would be like … ten, eleven o'clock, … after I'd done and it was sit, have a drink and have a cigarette"* (P014) and *"if I'd got a pile of ironing to do, I'd do half an hour and think I deserve a cigarette for doing that, so I'd go out and have one"* (P017). Smoking was therefore used as a reward by the women which allowed them to take time away from housework and other domestic chores. Interestingly, women in employment reported similar smoking habits to these women when they had days off work. Participant 5 stated, *"I mean it revolves around cigarettes, I mean you get up and you have a cigarette, you do a job and then you go and have a cigarette"*, thus indicating that a lack of restrictions may be related to increased cigarette consumption.

Only one participant (from the focus group) felt that she did not have a routine pattern to her smoking behaviour. She differed to the other women within the focus group who reported very structured smoking behaviour. The focus group discussion of their smoking behaviour led her to state,

> *"I'm a funny smoker I either smoke absolutely nothing all day even two days running … but then I can equally smoke like 80 in one day as well so I'm sort of … not quite all or nothing but bordering on that … some people they get up and they have to light up and I've never been like that I actually … enjoy smoking so I sort of smoke when I'm in the mood but the trouble is, I can always binge sometimes so it can get out of hand" (P029).*

In this sample (both the focus group and the overall sample) Participant 29 was an anomaly for not having a set pattern or routine to her smoking behaviour. However, all women interviewed endorsed the fact that certain situations would escalate smoking

behaviour. Such situations were events that were perceived as stressful, low mood or social situations that involved alcohol. The next subtheme explores the contexts and cues that were associated with smoking in women.

5.2.3 Contexts and cues associated with smoking in women

All women agreed that certain situations (alcohol, negative emotions and stress) were related to an increase in smoking levels. Cigarettes were also used by women to perform certain functions. As previously highlighted in this Chapter, smoking provided women with a way of punctuating and organising the day. Furthermore, smoking was often reported as a solution to boredom by many women within the sample, e.g. *"It gives you something to do for 5 minutes"* (P003) and *"if you thought god this days going slowly, I'll have a cigarette"* (P009), thus suggesting that for some women smoking provided them with a purpose, albeit for a few minutes. Moreover, for a few women in the sample smoking was the only activity they felt able to engage in. Participants 21 and 23 both suffered with chronic illnesses which restricted their ability to leave the house and partake in other activities. As a result of this smoking became a way of passing the time and in itself became an activity. Participant 21 stated; *"Oh well that's all I have to do now, because you're bored, sheer boredom. I can't get out because I've got arthritis in the spine … and it's just sitting here all day"*.

In addition to giving women a purpose, smoking was reported by all women as a behaviour that was used to cope with stress. All women reported that their smoking levels would increase dramatically in times of stress. The women interviewed listed many stressors which they felt would increase their smoking levels. There was a distinction between the stressors listed with many of them being daily stressors such as work deadlines or coping with children and other stressors taking the form of more prominent life events such as divorce and bereavement.

Cigarettes were described as something which women carried with them in case they were needed, e.g. *"I don't tend to smoke unless I'm having a really bad day, I always have them [cigarettes] on me though, I can't not have my cigarettes with me"* (P027). Whereas others smoked in anticipation of stressful situations such as giving a presentation; because they believed smoking would increase confidence e.g. *"I've always had a cigarette before I give a speech or before I go to some event on my own*

because it gives me a boost" (P024). Women felt that smoking appeared to increase their ability to cope with stress. Participant 8 stated *"you had to get up and have a cigarette; otherwise you just thought I can't cope with my day I just need a cigarette to get started"* illustrating how women felt they depended on cigarettes to get through the day.

The reason smoking was endorsed as a coping strategy for dealing with stress, appeared to be related to the experience of smoking a cigarette which made the women feel calmer. Participant 6 stated, *"If I was stressed or upset … I would reach for my cigarettes … it's a lot like a safety blanket … it'll make me feel better … I felt it calmed me down"*. This sentiment of cigarettes having a calming effect was echoed by many of the women interviewed e.g. *"I'm a calmer person because I smoke"* (P008) and *"It calms me down, if I'm ready to murder somebody it calms me down and stops me murdering them. It's true honestly"* (P021). The calming effect of cigarettes appeared to be a key feature that women depended on. Many of the women interviewed acknowledged that the link between smoking and stress reduction was probably a fallacy. However, they continued to turn to cigarettes in times of stress despite this acknowledgement because they appreciated the calming effect. The calming effect of cigarettes was also endorsed by some of the women's peers. Participant 8 told how her boss stated *"sometimes I feel like taking up smoking cause I'm all over the shop. It's just this image that it does calm you down that you can't deal without it"* and Participant 1 told of how her sister was given cigarettes when her marriage broke down in case she needed them.

As a result of the perceived calming effect of smoking it was often associated with relaxation with many of the women using cigarettes as a way of unwinding at the end of the day. Participant 10 in particular only smoked at the end of the day and likened the action to having a glass of wine. This feeling of relaxation was described by many women with Participant 17 discussing how she would use smoking to relax after work and on her days off. It is probable that the calming effect of cigarettes that the women sought out was due to the withdrawal symptoms of nicotine addiction being relieved. This is illustrated perfectly by Participant 10 who stated, *"I would get to the point*

where I feel like climbing the walls if I haven't had a cigarette; so if I sit down and have it I'll feel nice and chilled out and relaxed".

Another mechanism that appeared to play a role in the calming effect of cigarettes was the fact that it allowed women to take a break from stressful situations. One interviewee stated *"you get to go away from the situation for a couple of minutes"* (P003) and other interviewees discussed how smoking provided them with an *"escape"* or a *"way out"* from situations. This feature of smoking was one that was reported by the majority of women interviewed. Participant 24 eloquently stated how the act of having a cigarette provided a buffer from stressful or uncomfortable situations she stated, *"I think when you have a cigarette you go into your own private comfort zone, bubble, hideaway"* and Participant 2 felt that smoking gave her time away from her children if she was getting stressed, she stated,

> *"If I need to get away from the children you know obviously I put them in time out for being naughty but sometimes I need to take myself away from that so then I will go outside and have a cigarette and then go back in and they know that mummy needs to go and calm down then"*

Women also reported using smoking to get time to themselves or give themselves space to think through problems. Participant 5 discussed how she felt she was;

> *"always at somebody's beck and call but if I went out and had a cigarette nobody would bother me because they didn't like to come out where I was smoking … so it was also a time out"*

This was reiterated by Participant 8 who discussed how she was legitimately allowed breaks at work to smoke. She knew she would not be disturbed by others on her smoking breaks and therefore she used smoking as a way of reducing stress throughout her day, she felt this led to her associating smoking with stress reduction she stated, *"I'm calm once I've had a cigarette but in reality it's probably because I came off the floors and said I'm going out for a break so I had 10 minutes of them not bleeping me"*.

Not all women interviewed felt that smoking actually reduced stress levels. Four of these women had successfully quit smoking and were speaking retrospectively about the

link between smoking and stress reduction. Participant 8 stated, that as a non-smoker *"you're a lot calmer than you actually are if you smoke, you don't need it to calm down"* and Participant 12 stated that she felt smoking did not help her to cope she stated, *"if you've got a problem that's stressing you out it's still going to be there tomorrow until you sit and work it out"*. However, becoming a non-smoker may have resulted in these women developing alternative coping strategies or becoming less emotionally reliant upon cigarettes.

So far the way women use cigarettes to cope with daily stressors has been described. However, women also used cigarettes to cope with more prominent life events or psychological problems such as anxiety, depression and social isolation. Participant 22 discussed how smoking had helped her to cope with bereavement, she stated, *"my sister died two years ago … the stress; I couldn't take it. And smoking was my way of dealing with the stress"*. For some women a series of life events may have left them feeling emotionally reliant upon cigarettes. Although the women interviewed agreed that the terms 'addiction' or 'habit' described their smoking behaviour. It is also possible to see that many of the women interviewed appeared to have developed an emotionally dependency towards cigarettes. Cigarettes were often described as a *'best friend'* or a *'crutch'*. Interviewees stated, in *"any stressful situation cigarettes were my best friend"* (P006) *"it was like a crutch if anything went wrong I turned to cigarettes"* (P015), *"I rely on them I think, it's a bit of a crutch for me" (*P016) and *"I know I'm a stress smoker. If anything's wrong with the family that's my crutch"* (P019). Participant 24 also stated,

> *"Over the years I think I've worked out that it's a comforter, it's a friend, it's something that stops you feeling like you have nothing at all, and it's a habit and it's reinforcing … For me and I think for a lot of people it's to do with insecurity, loneliness and comfort … It is definitely mood dependent."*

Furthermore, some women likened the act of quitting smoking to burying *"a best friend"* (P006) or *"saying goodbye to a lifelong friend"* (P012), thus highlighting the strength of the emotional attachment that some women may have. Therefore it is important to consider that for these women smoking may be more than a habit or an

addiction as they could have an emotional reliance upon cigarettes. Such women may have extensive cessation needs.

Two case studies are now presented which illustrate the strong emotional bond that some women have with cigarettes. These examples highlight how women may use smoking as a coping strategy to make them feel better and as a result may develop a deep emotional reliance upon cigarettes.

Case study 1: Participant 12

Participant 12 was a 71 year old retired lady who lived alone. She had one son who lived in another part of the UK and consequently appeared to live a very solitary life. She started smoking at the age of 15 when she felt it was a very glamorous thing to do. At the time of the interview, she was currently trying to quit smoking again as she had recently relapsed after a *"dear little friend of mine next door he just died so suddenly"*. She stated, *"I just think it was all the upset … his death hit me really bad cause up here I wasn't seeing nobody and I felt I was going insane"*. She attributed her loneliness to be related to smoking she stated *"I don't see no-one and it is so easy to fall back on the cigarettes"*. Cigarettes were viewed by Participant 12 to act as a comforter and provided her with solace in her lonely life. She stated *"This particular drug you lean on it. You certainly do, you get stressed, you come back, cup of tea and a cigarette"*.

When discussing the experience of quitting smoking she says *"it's hard, really hard. It's like missing you're best friend. It's like saying goodbye to your real good friend but it's not a friend is it? It's a deadly weed but you never saw it was a deadly weed, you saw it as a friend"*. She believed that willpower was required to quit smoking; *"it is a weakness isn't it? and that cigarette calls you … that cigarette beckons you it really does and one of you is going to be the winner and one is going to be the loser and 9 times out of 10 it's the cigarette that wins"*.

This case study illustrates that for some women smoking may be the only action they have in their life to look forward to. Participant 12 was incredibly lonely and although she recognised that she needed to stop smoking, as her son disapproved and it was no good for her asthma; at times she relapsed and smoked as it was her way of coping with her social isolation. Although she may be addicted to nicotine or smoke because the

behaviour had become habituated within her life; she also appeared to be emotionally dependent upon cigarettes. Smoking was used by Participant 12 to alleviate low mood and isolation when she had no human contact. She admitted that although she had quit smoking she still smoked a couple of cigarettes at low moments. She also noted that she was trying to use NRT when she felt low rather than smoking a cigarette; thus suggesting that some women may see the intended use of pharmacotherapy differently to how policymakers envision it to be used (e.g. as a cigarette substitute rather than a cessation aid).

The next case study is of Participant 22 who also smoked to alleviate low mood.

Case study 2: Participant 22

Participant 22 was 48 years old; she started smoking at the age of 15 when she was sent to live with her aunt and uncle because of *"unruly behaviour"* and she attributed her smoking initiation to the isolation she experienced as a child she stated *"I think it was because I was away from home and never really had a lot of people to talk to; even though I lived with my aunt and uncle I never really fitted in"*. Currently she was employed to do two jobs; one in a factory where she worked as an assembly operator and another at a nursing home where she worked as a carer. It was not uncommon for her to work seven day a week or even to work solidly for 24 hour periods.

Participant 22 reported a turbulent life history; she was the victim of a knife attack from her previous husband. She eventually remarried; however, her new husband was deported to Jamaica. She currently was living with her mother whilst renting her house out. She suffered with depression and reported being hospitalized a few times due to mental illness. She felt smoking had helped her to keep her *"sanity"* and believed that as soon as she gets *"a bit low"* she would *"put a fag in her mouth"*, she stated,

> *"I don't do depression very well, if I'm upset about something and I can't handle it or feel sort of locked in a corner, then I will have a cigarette … I just feel that I smoke when something's on my mind and I feel let down … so when I'm feeling really depressed, then I will chain smoke. I feel like that's my way of dealing with pressure … and the rest of the time if I'm not pressured and I'm not upset about anything I can deal with everyday life I'm fine. I don't even think*

about it … I can get up; I could go all day without having a cigarette. But then as soon as I start to feel a bit withdrawn then I will have a fag and then I will sit there and smoke and smoke until I start coughing".

She viewed her life circumstances to be responsible for her reliance upon cigarettes and hoped that if her husband could return from Jamaica she would have the strength to quit smoking with his support. For Participant 22; smoking appeared to be an action that she turned too in times of distress; so it is likely that smoking for her represented more than an addiction or a habit but consisted of a deep emotional dependency. She had tried to quit smoking a number of times previously but had relapsed. Cases like Participant 22's raise questions about the adequacy of NHS cessation support to assist someone with quitting smoking who has a deep emotional reliance upon cigarettes. The next Chapter examines whether NHS cessation support is meeting women's needs. However, first women's attitudes towards smoking cessation and the factors that motivate women to make a quit attempt are explored.

5.3 THEME TWO: ATTITUDES

As part of the qualitative investigation, service users, lost to follow up users and non-service users were recruited. It was anticipated that different patterns of service use would be associated with differences in the sample with regards to attitudes and motivations towards smoking cessation. However after thematic analysis commenced it became apparent that these women did not represent distinct groups. Unsurprisingly, a woman's smoking status (e.g. quitter or smoker) was associated with different attitudes and motivations towards smoking cessation. However, within groups differences existed for both quitters and smokers in terms of motivation and intentions to engage in a quit attempt or remain smokefree. Therefore as a result of the thematic analysis a new grouping structure was developed to assist data analysis; this framework is now described.

5.3.1 Attitudes and beliefs of smokers

Smokers could be divided into two groups; contented smokers and discontented smokers. The characteristics of each group are now described.

i) Contented smokers

Four of the women were classified as contented smokers. Three of the women were non-service users (and were part of the focus group) and one woman was a service user who was interviewed (she was a drug user who wanted to reduce her cigarette consumption but did not intend to alter the amount of cannabis she smoked). The primary characteristic of being a contented smoker was that the women were happy with their current smoking status. The women within this category perceived smoking to have many benefits and gained enjoyment from engaging in the behaviour. It was viewed as a sociable activity and a way of meeting new people. The women felt that smokers as a group were generally more sociable and this was an identity that they personally identified with e.g. *"I think you are seen as perhaps party people"* (P029). In contrast, the majority of smokers interviewed expressed a desire to quit smoking. These women were labelled discontented smokers. The characteristics of being a discontented smoker are now described.

ii) Discontented smokers

Twelve of the interviewees were classified as discontented smokers; five of which were 'lost to follow up' clients, three were service users and four were non-service users (two were from the focus group). The primary characteristic of being a discontented smoker was that interviewees expressed varying levels of dissatisfaction with their smoking status but continued to smoke. All women varied to the extent in which they intended to change their behaviour. This group was easily divided into three subgroups depending on how concrete the intention to change their smoking behaviour was and how strong their belief was that they had the ability to alter their behaviour. Four of the women were classified as having no current intention to change, four had a future intention to change and four believed that they were unable to change their behaviour. Examples of each subgroup and how they differed are provided.

a) no current intention to change

Four of the women expressed a desire to quit smoking; however, such intentions were non-committal and were discussed abstractly to occur within a non-specified timeframe. Participant 21 stated,

> *"I'm not going to give up trying, just when my life is less stressful than it is at the moment; my daughter has just moved into our flat with the grandchild, we've got to get her a house, I can't see it happening, there's financial difficulties, hopefully when I feel less stressed, and I feel in a calmer frame of mind, I will seriously try again"*

All four of these women expressed discontentment with their smoking behaviour and perceived it to have negative consequences. However, they also felt that smoking provided them with occasional enjoyment, thus highlighting their ambivalent feelings towards their smoking behaviour. They stated,

> *"It doesn't have any benefits it does have disadvantages because obviously I get the smokers cough I'm not quite as healthy as I should be and I suffer with gum disease so there are definitely no advantages at all … I do enjoy some cigarettes but not all of them and I feel they are a waste of money to be quite honest" (P002)*

> *"The benefit from smoking is that I do enjoy it … but the majority of cigarettes I don't … the disadvantages are huge, obviously one being cost, I can't bear the smell …there's a million and one reasons that it's a habit that you'd rather not have" (P016)*

b) future intention to change

Four of the discontented smokers expressed a future intention to quit smoking. These women differed from the women in the previous category in that they had an intention to make a quit attempt within a specified timeframe e.g. *"I will do it, come back to me in six months' time and see if I've done it. I will do it, I'm determined to give up and I will give up"* (P022). Although these women expressed a desire to quit smoking and had made rough plans to stop within a specified timeframe they did not appear to envision themselves as long-term quitters, they stated, *"I smoke like a trooper. I look at it like this, if I'm going to die from fags at least I'm going to die happy"* (P022), and *"I'm quite happy going down to having one or two cigarettes a day, and that would be all right, because I'd hope from then after a year or something I'd just say I don't need to do this"* (P025).

In comparison to the women who had no immediate intention to quit smoking, these women differed as they expressed a clear rationale for why they should stop smoking and appeared to experience guilt and a compulsion to engage in quit attempts. One woman provided a succinct explanation about her motivation to quit smoking, she stated,

> *"I mean I do have to give up it's going to kill me and that's why I keep trying but I can't say that I don't enjoy the cigarettes that I do smoke and I think that's probably the hardest point you know I'm not doing it because I really want to I'm doing it because I really have to" (P011)*

Many women who were classified as discontented smokers reported feeling pressure to quit smoking. Participant 23 provides an extreme example of the ambivalent feelings that smokers may experience. An extract of her story is provided below;

> *"You get a lot of bad press …when you light up in front of somebody, are you still smoking? Yes. Don't you think it's about time you ought to give up seeing as you have got cancer? Probably …I can see your reasoning, but … I've tried the smoking aids about 10 times. I have actually given up before, I can do it, but I just don't think I want to do it. I don't want to do it strong enough, whether that's because I've already got two types of cancer I don't know but I don't want to stop smoking … I might have another go in the New Year, but I do find it hard to get the motivation to want to give up smoking. Because I just … think to myself well I've got two types of cancer, but then I feel really guilty that all the hospital staff are giving me this drug, … that was difficult to get, and I think I'm smoking, I'm mad …It's like a conflict every day …but hopefully one day I'll do it"*

Participant 23 provides an extreme example of the ambivalence that smokers may feel. She was already suffering with a serious illness and continued to engage in a behaviour that was damaging her health, which in turn led to her experiencing a high level of guilt. She engaged in quit attempts because she perceived it as the right thing to do rather than trying to stop smoking because she personally wanted to change her behaviour. The other women in the group expressed similar cognitions on a smaller scale as they

appeared to perceive smoking cessation to be the appropriate thing to do and reported engaging in quit attempts due to perceived pressure to quit smoking.

c) lack of control over behaviour

The final four women in this group represented a distinct subgroup compared to the previous two groups of women. Many of these women were engaging in frequent cessation attempts; Participant 19 stated *"Every night I go to bed I think I'm not going to smoke, that's the truth"*. However, their continued lack of success appeared to have resulted in feelings of despondency and desperation. Moreover, these women articulated that they felt smoking was a behaviour that they were powerless to change; they stated,

> *"If you had a magic wand and went like that to me and said you're never going to smoke again, I would be grateful for the rest of my life, I really mean that. I don't want to smoke. I hate the thought as I said before that it's the only thing that controls me, I have no control over it at the moment. I light up and I think why did I light up, why?" (P019)*

> *"Every day of my life I want to give up. Every single day it is the biggest wish, desire in my whole life, but it's so horribly conflicting with, I don't know, maybe low self-esteem, problems in my childhood, who knows what it's conflicting with, but it's hardwired I think now and I don't know how to un-hardwire it" (P024).*

Despite describing strong urges to change their smoking behaviour these women expressed a lack of confidence in their ability to change their behaviour. As a result of this, many of the women interviewed discussed external solutions that might assist them with quitting smoking. One interviewee discussed how she wanted a *'magic cure'* to help her quit smoking. Furthermore Participant 20 discussed how she was using varenicline to help her quit smoking; she stated *"I just hope they [the tablets] work"*, thus illustrating how she appeared to see the tablets as being the solution in getting her to quit smoking. Moreover, it also highlighted how she attributed herself with having little control in whether she would be successful in quitting smoking. Other interviewees also illustrated a desire for a stop smoking solution. Many interviewees

discussed hypnosis as a favourable smoking cessation option presumably because the responsibility for smoking cessation success would be displaced to an external source.

These women tended to blame themselves for previous failed cessation attempts which resulted in them endorsing the belief that they were not capable of quitting smoking. On close inspection it appeared that these women felt that they were not autonomously motivated to quit smoking, which might explain why they expressed a preference for smoking cessation options such as varenicline or hypnosis which may be viewed as 'cures'. Participant 20 explained that her previous quit attempts had failed, because although she no longer wanted to smoke, as she could still *"have a cigarette"* and was *"not strong enough to say no yet"*. Participant 19 expressed desperation to quit smoking and professed a hatred for smoking; however, she admitted that;

> *"If I decided to stop smoking, as my doctor says and he knows me well, I would do it. He said there's just something in my brain will tell me that's it. I've had enough, no more. And he said you'll do it, but I can't find it, I don't know where that bit is to say that. Say all the right things but still when you go I'll probably light a cigarette"*.

This highlights that although these women are discontented with smoking and felt pressure to change their behaviour; they do not feel able to quit smoking either due to lack of confidence or because they are not acting for autonomous reasons.

5.3.2 Attitudes and beliefs of quitters

Quitters could be similarly divided into two groups; ambivalent quitters and contented quitters. The characteristics of each group are now described.

i) Ambivalent quitters

Four of the service users were classified as ambivalent quitters. The key characteristic of being an ambivalent quitter was that women were uncertain about the longevity of their current quit attempt. For some women this uncertainty appeared to be related to a lack of confidence due to previous failed quit attempts. Interviewees stated;

> *"I'm saying now … I've given up smoking, I'm not smoking at the moment but I can't say that I'll never go back because so many times I've done it … I suppose*

I think of myself as a smoker, I've given up at the moment … I'm not smoking because I am so used to going back, I don't want to and I'm hoping that I don't" (P004)

"The thing is I'm always quite confident to start with but I just know I've done it so many times that I can just easily start again at any minute but this time I'm not going to but I've said that before" (P007)

Other interviewees such as Participant five were also ambivalent about the future of their current quit attempt. However, her uncertainty appeared to stem from her ambivalent attitude towards cigarettes. She stated, *"Part of me thinks I might smoke in the future but I'd have to win the pools or something I can't afford it and I don't want to"* she continued to state; *"I mean … to be perfectly honest if I could light a cigarette, if I could have 3 cigarettes a day I would be as happy as a pig but I can't, no I can't, so that's all there is to it"*. Ambivalence and uncertainty about the success of quit attempts was a unifying characteristic shared by all ambivalent quitters.

Many of the ambivalent quitters expressed a desire to have an occasional cigarette. Having an occasional cigarette was reported as something which had led to relapse in previous quit attempts. There was a sense of inevitability reported by the women that they would eventually revert back to smoking. The circumstances which would lead them to relapse were outlined. Participant 1 felt 80% sure that she would not smoke unless she experienced stress. Participants 4 and 5 reported that weight gain might lead them to start smoking again. Participant 4 stated: *"I would like to lose my weight again but I'm afraid to do that because when I start really trying to maintain my weight then I go back to smoking … this is the quandary I'm in now I feel like I'm on a seesaw"*.

These women did not feel confident in their ability to cope with factors such as stress and weight gain. They felt that if they were faced with such obstacles they would be likely to smoke. Participant 1 recalled a situation when she almost relapsed as her NRT was not ready for collection. She felt this gave her no option but to smoke as it was *"somebody else's fault"*, however, the stop smoking advisor solved the problem and she did not smoke. As a result the success of cessation outcomes appeared to be viewed as

out of the women's control and dependent upon the avoidance of factors such as stress or weight gain rather than being under their personal control.

ii) Contented quitters

Ten of the service users within the sample were classified as contented quitters. The key characteristic of being a contented quitter was that women expressed contentment with their smokefree status. Women in this category expressed no ambivalence about the longevity of their current quit attempt. Interviewees stated; *"I shall definitely stay smoke free. I walk past my Dad's photo and I say look I've finally done it Dad"* (P015) and *"How I feel at this point in time I'll never smoke again, and I don't want to smoke again"* (P018)

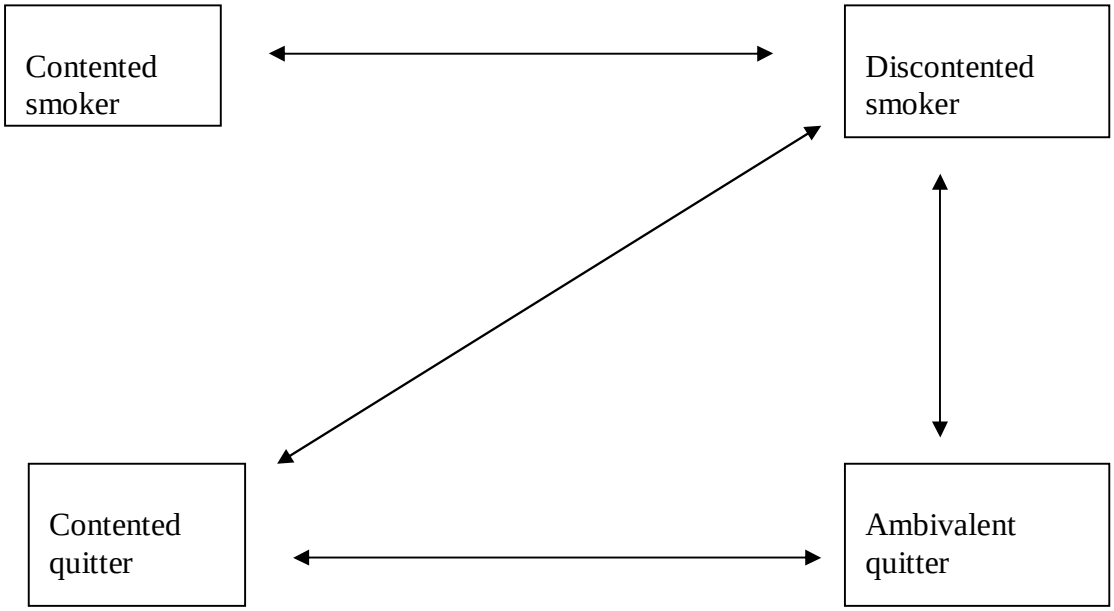
Although none of the contented quitters expressed ambivalence about the longevity of their quit attempt, women within this category expressed a range of positive and negative attitudes towards tobacco. Some of the contented quitters such as Participant 9 had changed their attitude towards cigarettes completely and now perceived smoking negatively. Participant 9 stated, *"I really can't stand smoking, nothing would induce me to have a cigarette … it's the very last thing on my mind"*. In contrast, Participant 18 discussed how she still experienced a strong desire to smoke but chose not to, she stated, *"I want a cigarette every day … there's not a day goes by that I don't want a cigarette, I can honestly say that. But I choose not to have one … it's your choice"*. This longing for cigarettes was also described by other interviewees, albeit as a more fleeting experience. Participant 14 stated, *"I'm not going to say that I haven't wanted a cigarette because I have on quite a few occasions, and I think as time goes on it does get easier"*. Whereas Participant 8 felt that the advantages of remaining smokefree outweighed the advantages of continuing to smoke, she stated, *"The benefits of not smoking far outweigh the benefits of a cigarette, there don't appear to be any to me now*". The range of positive and negative attitudes expressed by interviewees implied that possessing either a positive or a negative attitude towards cigarettes was not a prerequisite of being a contented quitter.

5.3.3 A continuum of behaviour change?

It is hypothesized that these two categories (e.g. smokers and quitters) exist as two separate continuums whereby women varied in the amount that they were

discontented/ambivalent or contented with their behaviour. Such a continuum is conceptualised to be dynamic whereby women can move along the continuum in response to different influences. Furthermore, women on each continuum are not on a set trajectory (e.g. smokers can become quitters; quitters can become smokers). This is evidenced by the fact that two of the contented smokers reported engaging in previous long-term quit attempts and all of the contented quitters discussed previous unsuccessful quit attempts. Figure 2 depicts a hypothesized model of how the women may move between the different categories.

Figure 2: A continuum of behaviour change?



The diagram illustrates hypothesized pathways that women may use to move between categories. It is hypothesized that contented smokers will not be motivated to engage in quit attempts as they have no intention of quitting smoking. However, as the women's social worlds and motivations are ever changing, contented smokers may become unhappy with their smoking status resulting in them becoming discontented smokers. It is hypothesized that discontented smokers that make a quit attempt will become either ambivalent or contented quitters. The difference between the ambivalent and contented quitters reflects the level of uncertainty they feel about the longevity of their cessation attempt. Such beliefs are likely to be influenced by factors such as self-efficacy and the

level of autonomy that they feel (i.e. are they quitting smoking because they want to or because they feel pressure to change their behaviour?). The process of behaviour change is dynamic in nature and ambivalent quitters may become contented quitters and contented quitters may become uncertain about their smokefree status and become ambivalent quitters. Furthermore, quitters can relapse back to smoking. However, it is hypothesized that quitters would become discontented smokers and not contented smokers as it is thought that they would experience some guilt about relapsing back to smoking.

5.4 THEME THREE: WHY DO WOMEN QUIT SMOKING?

All women interviewed listed a multitude of reasons as to why they should (or had) quit smoking (even contented smokers). It is hard to isolate specific factors or events that triggered women to make a quit attempt and it is more probable that a combination of factors and events which have occurred throughout the women's lifecourses led to the ultimate decision to make a quit attempt. Within this sample, the two commonly cited reasons given by the women interviewed for making a quit attempt were health concerns and social stigma. These factors are explored in the following subthemes. The final subtheme explores the role motivation has in cessation attempts.

5.4.1 Knowledge of health risks

Health was the most cited reason that women gave for making a quit attempt. All women interviewed were aware of the negative health effects associated with smoking. Moreover, many of the women interviewed had already witnessed some of the negative health effects associated with smoking. One smoker stated,

> *"The disadvantage is that it's killing me, and I know that … like I said I'm asthmatic ... I get colds really bad, always end up with chest infections, bad coughs, I cough like an old truck. I'm forever in and out of the doctors and I hate it … And it's just killing me basically, and I'm just killing myself and I know it. And I know the consequences if I don't stop, I know that I could end up with an oxygen bottle next to me" (P022).*

Other women such as Participant 11 reported witnessing family members suffering because they smoked. She stated,

> *"My granddad died of lung cancer, my mum died of COPD and every time I smoke I'm killing myself … I've seen it happen it's not just something I've read or somebody on the television telling me this, I've seen it happen and it's a horrible, horrible slow death".*

These examples illustrate that having awareness of the detrimental health effects associated with smoking and even having direct experience of them did not necessarily cause women to stop smoking. However, being acutely aware of the negative health impacts associated with smoking appeared to cause some women to feel pressurised to make a quit attempt. Feeling pressure to quit smoking appeared to be associated with increased levels of ambivalence as the women felt that they should not continue to smoke.

Contented smokers differed from other groups of women in the sample as they expressed a desire to continue smoking and perceived smoking to have associated benefits. However, even contented smokers acknowledged the negative impact that smoking could have on their health. All contented smokers had indirect experience of the negative impact smoking could have upon health. Many had witnessed others suffer or die from smoking related illnesses. Again such experiences did not appear to increase motivation to quit smoking. One contented smoker who participated in the focus group stated, *"you know the dangers of smoking … but everybody knows the dangers of smoking it doesn't matter"* (P030).

The contented smokers were a unique group as they expressed scepticism and uncertainty about the negative health effects of smoking. One woman who participated in the focus group said that the negative health effects from smoking were *"a lottery"* (P029) and not a definite outcome; she continued to state, *"some people live to 100 and smoke like a chimney other people die of lung disease and have never smoked in their life"*. She also felt that genetics would have an impact on whether smoking would affect her health. This discussion (in the focus group) prompted Participant 30 to state *"there's also other parts of your lifestyle not just your genetics … diet and things"* which affect health. Such quotes illustrate how these contented smokers attributed the negative health effects of smoking to be a result of factors beyond their control. Presumably this is a coping mechanism which allowed these women to feel better about

engaging in a risky behaviour. Moreover, it implies that although they acknowledged the negative impact of smoking on health in reality they appeared to be in denial that smoking presented a real and actual threat to their health.

Overall the majority of the women in the sample appeared to have accepted the detrimental health effects of smoking as a reality. However, a few of the women interviewed also told anecdotes about individuals who had smoked their whole lives without suffering any negative effects. Again such stories appeared to function as defence mechanisms which protected women from experiencing guilt whilst engaging in unhealthy behaviours. However, unlike contented smokers, these women recognised that although they were aware of such individuals their opinion towards smoking had changed over the years as they had started to experience directly the negative impact of smoking on their own health. Participant 8 stated,

> *"the majority of people they can go on all right, my dad smoked since he was 15 so he smoked for 40 odd years and he's got no health issues, no lung problems and I thought well … you know cigarettes aren't that bad".*

However, she continued to state that health concerns were one of the main factors which prompted her recent quit attempt as her health had significantly deteriorated.

> *"it was health … I was getting so bad that I couldn't walk without achy legs, really bad painful achy legs and I'd then get a pain that was really sharp for days and all my legs would go a bluey colour and my feet I would suffer … it was really bad".*

Thus illustrating how her opinion had altered as she witnessed the impact of smoking on her own health. This was reiterated by Participant 20 who discussed her change in motivation to quit smoking across her lifecourse which she attributed to increasing health concerns. She stated,

> *"it's not good for you is it? As I've got older I realise that. When you're young you think oh well you can do it and I've not really had a health reason to pack in. I have now … because I've got high blood pressure and stuff like that, but it's never been enough, because I've not been able to see anything".*

This illustrates that although recognition of the detrimental health effects of smoking did not necessarily cause individuals to quit smoking, acknowledging that smoking was responsible for one's own ill health appeared to be an important step in motivating individuals to make a quit attempt. Moreover, it is possible that experiencing the direct effects of smoking upon their own health may cause discontentment with smoking amongst the contented smokers.

5.4.2 Image as a smoker and stigma

Another common reason given by interviewees for engaging in a quit attempt was the effect of smoking on an individual's appearance. All women discussed how they did not like the smell of smoke on their hair or clothes. Furthermore, women disliked having nicotine stained fingers and teeth. Such effects were considered particularly undesirable and were mentioned by many of the women as motivating factors for smoking cessation. Participant 4 stated,

> *"I was unhappy smoking because I think smokers don't look very nice, when they are out and about or stood outside buildings … I don't like the thought that you smell when you smoke even though you try and mask it, it's all downs. I hated my teeth because your teeth go yellow."*

Furthermore many of the quitters discussed how post cessation they realised how smoky they must have smelt and this was a motivator which they used to help them remain smokefree.

The perceived effect of smoking on one's attractiveness was listed as a factor that previously motivated some of the women (particularly the contented smokers from the focus group) to make a quit attempt. Moreover, these women listed the effect of smoking on their appearance to be something which would motivate them to make future cessation attempts. Participant 30 stated,

> *"I think the skin for me is definitely something, if I saw an advert showing you how your skin deteriorates and how you look older and age quicker that's definitely more of a deterrent for me than telling me that I'm gonna get lung cancer."*

this prompted Participant 29 to state, *"The vanity thing for most people is more of a … because you can see it, you can't see what your lungs look like"*. Part of the reason women disliked the effect of smoking on their appearance was that it enabled others to identify them as smokers and they disliked the connotations associated with being a smoker. Many of the women interviewed reported being self-conscious about others knowing that they smoked. Participant 6 discussed how she was particularly conscious of smelling smoky and she adopted tactics such as washing her hands after smoking to try and reduce the smell. She stated,

> *"There is the element of disapproval from people that smoked and have given up or who have never smoked …you smell of cigarettes and it's horrible and I would always after a cigarette go in the toilet and wash my hands cause it was quite strong and it lay on my clothes and breath."*

Similar tactics were also reported by other women e.g. spraying perfume or changing their clothes frequently.

A scenario reported by a few of the interviewees (3 of the four contented smokers from the focus group and one discontented smoker and contented quitter) was to make a quit attempt if they started a relationship with a non-smoker. Participant 7 stated she quit smoking recently because her boyfriend was a non-smoker and she did not *"want to smell like an ashtray"* when she was with him. It seemed that these women felt that if they were in a relationship with a non-smoker their smoking status would reduce their level of attractiveness.

Smokers were aware that smoking was becoming unacceptable within society. Interviewees stated, *"Smoking is not socially acceptable anymore for a start you are a bit of an outcast"* (P011), *"it's an affront to light up in front of somebody. Whereas say in the Fifties it was considered okay"* (P023) and *"It used to be quite glam to smoke back in the Seventies and Eighties didn't it, and now it's not"* (P025). The change in acceptability was associated with increased promotion of the negative health effects. Participant 3 stated, *"when I was younger …, it wasn't sort of portrayed as being so bad but nowadays it's all over the TV, it's all … in the newspapers"*.

Many interviewees felt that smokers were becoming a minority group within society. Participant 25 felt she had become a lone smoker amongst her friends, she stated, *"I just find smoking to be fairly antisocial …I seem to be the only person standing out there having a fag now"*. Furthermore she felt that her smoking status made her feel like a *"leper"* when she attended formal social events and went outside for a cigarette alone. The change in perceived acceptability of smoking led to many interviewees reporting pressure to quit smoking. Participant 6 had recently gotten divorced and felt quitting smoking would make her "*more acceptable by a chunk*" of society. She continued to state, "*there's an element that a lot of my friends have given up and a lot of people I know have given up"*. Participant 24 reiterated this sentiment and stated, "*it suddenly started to become public notice that actually it wasn't good for you and … that's when I realised I might want to give up now"*.

For many the social disapproval and stigma associated with smoking had encouraged them to quit smoking. However, a small proportion of women interviewed felt unable to quit smoking and were angered by societies shift in attitude. Participant 19 felt that women of her generation were *"programmed and driven to smoke"* by the *"television programmes"* and *"culture"* of the past. She feels as a teenager she was encouraged to smoke as her workplace distributed free cigarettes. She stated,

> *"You almost feel, because you're outside it always makes you feel oh you shouldn't be doing this, this is dirty …but we were programmed that years ago and now all of a sudden it's boom, boom, boom, and it's like tell me one thing and then stop me doing it … we were given them, so we were encouraged and so for the Government now to just turn round to all of us people and say, especially the older ones, you shouldn't be smoking. You started this really; you fed us, because all we ever saw was American Camel cigarettes … if you didn't have a cigarette …you were boring."*

Other interviewees reported engaging in secret smoking because of the stigma they felt was associated with being a smoker. Participant 29 stated that she would refrain from smoking around non-smokers because she wanted *"to be liked rather than disliked"* and Participant 24 stated, *"Most people have to be closet smokers nowadays because it's so socially; you probably don't want people to know as well. So there's a lot of stigma*

attached to it". This was reiterated by a few other participants who reported secretly smoking. Participants 4 and 5 both reported how they had previously told their families they had quit smoking and would continue to smoke in secret. Secret smoking appeared to occur when smokers felt pressure to conform to strong non-smoking norms enforced upon them by significant others such as family members or when they perceived that smoking would be viewed negatively by others. Participant 17 provided another example of this; she hid her smoking behaviour from the people she worked with. She stated *"I tried to be discreet about it because I was ashamed of the fact that I did smoke"*.

5.4.3 Motivation

The previous subthemes outlined how health and social disapproval were commonly cited reasons given by women for making a quit attempt. However, all women interviewed agreed that being motivated or having the right *"mindset"* was the essential ingredient for a successful cessation attempt. Contented quitters attributed their success to having the correct mindset. Eight of the ten women described this feeling as being truly *'determined'* to quit smoking. There was a general consensus amongst the contented quitters that their current quit attempt had differed from previous quit attempts as it was now 'the right time' to quit smoking or they were now in the right 'frame of mind' suggesting potential motivational differences between current and prior quit attempts. Participant 8 stated,

> *"Previously I only half-heartedly was giving it up just cause of getting lectures off my husband … He wanted me to give up for the money and I'd agreed … so I [was] half-hearted [it] wasn't … completely my decision; I wasn't the one that came home and said I know I'm going to give up smoking, it was more of a forced 'you really should stop now' lecture … That's probably why I didn't last that long, whereas this time is different because I did it because I wanted to … not because somebody wanted me too and it worked"*.

This was reiterated by other interviewees; *"You've got to have the determination. You've got to want to give up. I think that's the key. It's no good giving up for someone else; you've got to want to give up for yourself."* (P014) and, *"I think attempts is the word and I wasn't really determined enough to do it. They were half-hearted attempts; I*

think to please other people rather than me. This time I did it for me, for nobody else" (P015). It is difficult to ascertain whether contented quitters really have a different mindset compared to previous quit attempts or whether they report having a different mindset as a result of feeling more confident and positive because of their successful quit attempt.

Although each of the contented quitters had different motivations for why they had quit smoking, a unifying characteristic between them as a group was that they felt it was their choice to quit smoking. The women appeared to be more intrinsically motivated to quit smoking compared to prior quit attempts, whereby they reported making a cessation attempt as a result of pressure from others or due to guilt. Contented quitters listed reasons for making a quit attempt that appeared personally meaningful to them. For example, Participant 17 made a cessation attempt as she knew her daughter wanted to start a family and she thought that by quitting smoking it would encourage her daughter to stop smoking and Participant 14 decided to quit smoking as she wants to see her grandchildren grow up.

In contrast to contented quitters; discontented smokers admitted that they primarily wanted to quit smoking because they felt pressure to quit smoking either from others or as a result of health concerns. For example, Participant 23 described a "*compulsion to try*" and stop smoking even though she admitted that she did not actually want to quit smoking. Similarly Participant 19 reported obsessively engaging in quit attempts as she does not "*want to smoke*" and felt pressure to quit. However, she continued to imply that she was not truly motivated she stated, *"I say all the right things but still when you go I'll probably light a cigarette"*. From the interviews it appeared that quitting smoking for less autonomous reasons (i.e. because women felt they should quit rather than because they wanted to stop smoking) appeared to be associated with less cessation success. Discontented smokers acknowledged that they did not have the right mindset to successfully quit smoking but still felt that they should make a quit attempt (even though they did not believe they would succeed). Participant 11 (a discontented smoker) describes her motivation when making frequent cessation attempts; she stated, *"I'm not doing it because I really want to I'm doing it because I really have to and there is a big difference"*.

Contented smokers as a group believed that if they wanted to quit smoking and were motivated to stop smoking, they could quit easily. However, they reported that they *"enjoyed smoking too much"* (P030) and planned to continue to smoke. They stated, *"your head definitely needs to be in the right place"* (P026); and, *"I know that if I wanted to give it up and I had a good enough reason that outweighed the joy of smoking I'd just give it up like that"*(P030). Participant 27 felt that determination was crucial when quitting smoking she stated, *"When you quit smoking if you're determined to do something, you'll do it*".

Ambivalent quitters were an interesting group as they had managed to stay smokefree for lengthy periods of time (2-7 months) and did not want to start smoking again. However, they described a sense of inevitability that they would return to smoking. When examining their motives for making a quit attempt these women reported feeling pressurised to quit smoking by others. Participant 4 provided an example of this as she was concerned about her health and felt pressure from her daughters to quit smoking and Participant 7 reported quitting to please her non-smoking partner. Such results imply that autonomous motivation appears to play a crucial role in successful cessation outcomes.

5.5 DISCUSSION

This Chapter explored three themes. The first theme explored women's experiences of smoking and addiction. The second theme examined the attitudes of women towards smoking and smoking cessation and the last theme explored the factors that motivated women to make a quit attempt. Finally the role of motivation in smoking cessation was also explored. Results raise questions about women's experiences of smoking and the appropriateness of tactics which are used to engage women to quit smoking. The results of this Chapter are discussed in light of wider literature.

5.5.1 Women's experiences of smoking and addiction

Tobacco use has been recognised as a substance use disorder (American Psychiatric Association, 2000; WHO, 1992). Tobacco dependency is characterised by experiencing a strong desire to smoke, experiencing tolerance and withdrawal from the drug, smoking large amounts of tobacco or using more tobacco than intended, experiencing difficulty in controlling tobacco use, spending time obtaining, using and recovering

from the effects of tobacco, giving priority to tobacco use over other activities and continuing to use tobacco despite the harmful consequences associated with it (American Psychiatric Association, 2000; WHO, 1992). Nicotine has been identified as the addictive substance within tobacco and is considered to be the 'primary reinforcer' of smoking behaviour (Benowitz, 1996; Caggiula et al., 2002). However, research has indicated that the cues associated with smoking (e.g. the sight, smell, and taste of cigarette smoke, and the context within which the behaviour is performed) are equally as important as nicotine in maintaining smoking behaviour (Caggiula, et al., 2002; Caggiula et al., 2001). Consequently smoking behaviour is generally viewed to occur as a result of addiction and habit.

From the women's interviews it is possible to see both elements of addiction and habit in their descriptions of smoking behaviour. The women extensively discussed their routines and the times of day associated with smoking. Cigarettes took precedence in the women's lives and they reported feeling controlled by cigarettes and their desire to smoke. However, from the women's descriptions about their smoking behaviour it was possible to see that all women interviewed reported using smoking as a way of coping with stressful situations and negative affect. The link between tobacco use and stress/negative affect reduction in smokers is well established but not well understood (Kassel, Stroud, & Paronis, 2003).

It has been argued that a causal link between smoking and negative affect/stress reduction does not exist (Kassel, et al., 2003). Instead it is thought that a moderating factor results in negative affect and stress reduction (Kassel, et al., 2003). Negative reinforcement models of smoking posit that tobacco withdrawal causes an increase in negative affect (Baker, et al., 2004), which is subsequently relieved by smoking behaviour as nicotine withdrawal symptoms are eased. Therefore, some have argued that smoking becomes a learned response which helps to reduce stress and negative affect in smokers (Baker, et al., 2004). However, it remains unclear whether tobacco contains active properties which would serve to ameliorate stress and negative affect or whether expectancy effects exist whereby the belief that smoking reduces stress/negative affect serves to cause a reduction in perceived levels of negative affect and stress (Baker, et al., 2004; Kassel, et al., 2003). Therefore, further research is

required to ascertain the exact mechanisms in which smoking causes a reduction of stress and negative affect.

There has been a call for research to identify the contexts in which smokers use tobacco to reduce stress and negative affect (Kassel, et al., 2003). From the interviews it appeared that smoking was used by the women as a way of punctuating their day and alleviating boredom. Furthermore, women reported using cigarettes as a way of providing a break from stressful situations. Other research has identified that women use smoking as a way of coping with the demands of caring for children (Graham, 1993; Stewart, et al., 1996). However, this study showed that women used smoking as a way of coping with many daily stressors (e.g. such as the demands of housework, and workplace stressors) as well as using smoking to cope with significant life events such as bereavement and divorce; thus illustrating that smoking appeared to be used by women as a coping strategy to deal with stress in general rather than a specific coping strategy for dealing with the demands of children.

An association exists between smoking prevalence and the prevalence of anxiety and depression disorders (Morrell & Cohen, 2006). The association between mental health and smoking requires further research; however, from these interviews it was possible to see that women who identified themselves as having mental health problems reported using smoking to improve their mood. Other research has indicated that there is a strong association between nicotine dependence and mental health; whereby individuals with mental health problems appeared to be more dependent on nicotine (Breslau, Novak, & Kessler, 2004; John, Meyer, Rumpf, & Hapke, 2004). A hypothesis exists that individuals who use smoking to cope may be more addicted to smoking as they may have developed an emotional reliance on tobacco in addition to a physical dependence to nicotine. Such an hypothesis requires further investigation; but may explain the puzzling findings from the previous Chapter that indicated that markers of addiction predicted smoking cessation outcomes in women.

Little research has examined how gender affects women's experiences of tobacco dependence. One qualitative study in Scotland explored smokers experiences of quitting and indicated that both men and women used smoking to cope with stress (Wiltshire, et al., 2003). However, within that study the sources of stress experienced by men and

women appeared to differ. Women reported domestic sources of stress such as childcare and housework whilst men reported employment as a source of stress (Wiltshire, et al., 2003). In Chapter 4, men that reported smoking to cope were less likely to quit smoking compared to men who reported smoking for pleasure. Smoking to cope did not predict smoking cessation outcomes in women. Therefore, further research is required to understand the role of coping in the smoking behaviour of men and women.

The previous Chapter highlighted that women who accessed cessation services were more likely than men to experience markers of deprivation. Disadvantage is strongly associated with smoking behaviour and reduced cessation outcomes (Jarvis & Wardle, 2006). One hypothesis is that women are more likely to have elevated levels of depression and anxiety (Van de Velde, Bracke, & Levecque, 2010) which have been explained by the disadvantaged social position that women inhabit (Chonody & Siebert, 2008; Van de Velde, et al., 2010). Depression and anxiety have been associated with increased tobacco dependency (Breslau, et al., 2004; John, et al., 2004) and therefore women may be more likely than men to use tobacco to help them cope with negative affect due to their social position. However, further research is warranted to explore this hypothesis.

Lastly, the classifications of tobacco dependence appear to be based around physiological markers of addiction such as tolerance and withdrawal. Such classifications neglect the emotional reliancy that smokers may have with cigarettes. In this Chapter it was possible to see that developing an emotional reliancy towards cigarettes was common amongst all women interviewed to varying degrees. If women, do have different experiences of tobacco dependency then theories of tobacco dependence and the guidelines upon which cessation treatment are built should be altered to take into account their differential experiences (Richardson, et al., 2007).

5.5.2 Engaging women to quit smoking

Raising awareness of the negative impact that smoking has on health is a central part of any tobacco control strategy (HM Government, 2011a; WHO, 2008a; World Bank, 2004). The aim of creating such awareness is to motivate smokers to quit smoking. It has been argued that smokers (particularly the most deprived) are unaware of the damage they are causing to their health (Jarvis & Wardle, 2006). Telephone interviews

conducted with 9000 smokers in the UK, USA, Canada and Australia, about their knowledge of the health risks associated with tobacco use, found that smokers had a high level of knowledge about the causal associations between smoking and coronary heart disease, stroke and lung cancer (Siahpush, McNeill, Hammond, & Fong, 2006). However, a deprivation gradient was also reported, whereby individuals with lower education attainment had lower awareness of the impact of smoking on their health; thus indicating that knowledge about the health risks associated with smoking may be lower amongst the most deprived. These interviews highlighted that all of the women interviewed demonstrated basic awareness that smoking had a detrimental effect upon their health. These women may be considered to be disadvantaged because they lived in a deprived area. Therefore, it is possible to argue that the results of this study highlight that deprived smokers had basic awareness of the impact of smoking upon health.

Health concerns were a commonly cited reason for smoking cessation within this study. This finding has been supported by wider research (Cummings et al., 2004; Hyland et al., 2004; Wiltshire, et al., 2003). However, awareness of the detrimental impact of smoking upon health did not automatically motivate individuals to quit smoking. From this sample it appeared that internalising the risk of smoking to one's own health increased motivation to stop smoking. Smokers within this sample that were not motivated to quit smoking did not see the risks as a definite outcome and had no concerns about the direct impact that smoking was having on their own health. In contrast, smokers that had experienced the effects of smoking on their own health reported an increased desire or pressure to quit smoking. Wider research found that current health concerns were cited as a trigger for smoking cessation amongst the most deprived. In contrast individuals of a higher socioeconomic status were more likely to cite future health concerns as a reason for smoking cessation (Vangeli & West, 2008). Such findings indicate that increasing awareness of the impact of smoking upon health may not be the most effective health promotion strategy for the most deprived individuals who may not internalise the risk to their own health without direct experience of it.

Being knowledgeable about the impact of smoking on health has been associated with a desire to quit smoking (Cummings, et al., 2004). However, awareness and experience of

negative effects of smoking on health does not guarantee someone will successfully quit smoking. Within this study, a small sample of women (the discontented smokers) made frequent unsuccessful cessation attempts. These women appeared to have internalised the risk that smoking posed to their own health and reported experiencing feelings of guilt at their perceived inability to change their behaviour. There is a danger that multiple failed cessation attempts could cause individuals to disengage from smoking cessation messages. There is a need to ensure that cessation support is effective for all women. The next Chapter explores whether existing NHS cessation support is meeting the cessation needs of women.

Another common reason for smoking cessation given by the women interviewed was that smoking was perceived to be unacceptable within society. Wider research has discussed how tobacco control policies (such as smokefree legislation) which aim to 'denormalise' the use of tobacco have led to smokers feeling stigmatized (Bell, McCullough, et al., 2010; Bell, Salmon, et al., 2010; Graham, 2012; Ritchie, et al., 2010; Stuber, et al., 2008). This study highlighted that women felt that being identified as a smoker had negative connotations. For many of the women interviewed, the perceived social disapproval associated with smoking had led to them successfully quitting smoking. However, a large proportion of women interviewed continued to smoke but felt pressure to change their behaviour. Some women reported tactics such as secret smoking whereby they hid their smoking status from others. The denormalisation of smoking is accepted as a public health tool due to its ability to encourage smokers to change their behaviour (Ritchie, et al., 2010). However, policymakers should consider that some smokers (potentially the very deprived) may feel stigmatized by the perceived disapproval of their smoking behaviour which could lead to them becoming further marginalised within society (Bell, Salmon, et al., 2010; Graham, 2012).

Societal disapproval and the promotion of the negative health effects associated with smoking led to many of the women making a cessation attempt. However, it appeared that within this sample, women who successfully and contentedly quit smoking were motivated by more autonomous reasons. Self-determination theory (SDT) can help to explain the motivational differences observed within this study. SDT posits that behaviour change is more likely when individuals feel that their behaviour is

autonomous (i.e. their own choice) rather than when they feel controlled (no choice) (Deci & Ryan, 1985; Deci & Ryan, 2008; Williams, Gagne, Ryan, & Deci, 2002; Williams et al., 2006).

Motivation can vary from the autonomous intrinsic motivation whereby individuals engage in behaviours because they are valued inherently by the individual to the controlled extrinsic motivation where individuals engage in behaviours because of the extrinsic rewards associated with it (Deci & Ryan, 1985; Deci & Ryan, 2008). It could be argued that smokers may not be intrinsically motivated to quit smoking as not smoking for an addicted smoker would be an unpleasant experience. However, there are varying degrees of extrinsic motivation, which could help explain why smokers make cessation attempts. Integrated motivation is the most intrinsic form of extrinsic motivation and in terms of smoking cessation and would mean that individuals quit smoking because they place a value on the benefits associated with not smoking (Deci & Ryan, 1985; Deci & Ryan, 2008). At the other end of continuum motivation may be externally regulated which could mean individuals are motivated to act based on external rewards such as financial gain or to gain the approval of others (i.e. peers, family, healthcare professionals, society) (Deci & Ryan, 1985; Deci & Ryan, 2008; Williams et al., 2011).

SDT appears to be helpful in interpreting the results of the qualitative investigation. Women interviewed appeared to fit into four categories; discontented/contented smokers, contented/ambivalent quitters. Women who were classified as contented quitters expressed their motivation to quit smoking in ways which appeared to reflect a high level of personal autonomy. In contrast, ambivalent quitters appeared conflicted and discussed how they felt they should remain smokefree whilst also expressing desires to smoke, suggesting their actions were not completely autonomous. All women interviewed agreed that the right ‘mindset’ was necessary for successful cessation. Similar results have been reported in wider literature and a telephone survey of 802 smokers (and some recent quitters) found that over 70% of those interviewed felt that an unambivalent desire to quit was necessary in order for an individual to quit smoking successfully (Balmford & Borland, 2008).

The distinction between wanting to quit and feeling a sense of duty to quit was also acknowledged in the work of Robert West's PRIME Theory (West & Hardy, 2006). Subsequent research found that individuals that wanted to quit smoking were twice as likely to engage in a quit attempt compared to those who felt they should quit (Smit, Fidler, & West, 2011). Being more intrinsically motivated to quit smoking was also related to improved cessation outcomes compared to individuals who were extrinsically motivated (Curry, Grothaus, & McBride, 1997). Collectively such results imply that feeling in control of one's decisions (i.e. having a sense of autonomy over one's behaviour) or being more intrinsically motivated appeared to be associated with improved cessation outcomes; whereas feeling pressure to quit smoking appeared to be associated with poorer cessation outcomes. Therefore, in light of such evidence the effectiveness of public health tactics that aim to place pressure on smokers to stop smoking could be questioned.

This Chapter highlighted that smoking for many women appeared to be an emotional dependency. The next Chapter examines women's experiences of smoking cessation and NHS cessation support. Given that many women reported being emotionally reliant as well as physically dependenct upon tobacco; the next Chapter examines whether pharmacotherapy and cessation support services are meeting women's needs.

CHAPTER SIX: NHS STOP SMOKING SERVICES – ARE CESSATION SERVICES MEETING WOMEN'S NEEDS?

6.1 INTRODUCTION

The WHO have called for a gender equity approach to be adopted when examining the impact of tobacco control policy. Within the UK it has been noted that women consistently have poorer cessation outcomes compared to men when using NHS cessation support (ISD Scotland, 2011; The Information Centre, 2012). Wider research has indicated that such differences in quit rates between men and women are not present within the general population (Jarvis, et al., 2012; Vangeli, et al., 2011). Reasons for the discrepancy between cessation outcomes of men and women are unclear. The secondary data analysis reported in Chapter 4 highlighted that women using cessation services were more likely to experience multiple markers of disadvantage compared to men. Furthermore, Chapter 4 demonstrated that markers of addiction were important predictors of smoking cessation amongst women. Women's experiences of addiction were explored within Chapter 5. Findings suggested that women may develop an emotionally attachment with smoking in addition to their physical dependence on nicotine. Given that some women might be very emotionally dependent upon smoking; this Chapter explores women's experiences of using NHS cessation support and pharmacotherapy to understand whether NHS cessation services are meeting women's often complex needs.

Five themes from the thematic analysis are presented in this Chapter. Theme 4 is entitled *hearing women's voices* and the theme examines the features of cessation support which were identified as important to women when making a cessation attempt. Theme 5, *lack of awareness;* highlights women's lack of knowledge about the available cessation support options within their local area. Theme 6, *repeated quit attempts;* explores how women had made numerous previous quit attempts; consequently for many women smoking cessation was not a long-term change. Theme 7, *pharmacotherapy;* explored women's views about the effectiveness and acceptability of using pharmacotherapy to help them quit smoking. Theme 8, *ownership;* examined the effect that taking ownership for the outcome of a cessation attempt had on the women

interviewed. Four case studies are presented within this Chapter to illustrate and provide evidence of themes at an individual level.

6.2 THEME FOUR: HEARING WOMEN'S VOICES

This theme explores women's experiences of using NHS cessation support and identifies the features of cessation support that were identified as important by the women interviewed. Each feature of cessation support is explored in a separate subtheme. There are three subthemes in total; *level of support, format of cessation support* and *location, intervention type and staff*. Each subtheme is presented in turn. Women do not represent a homogenous group and two case studies are presented first to illustrate the range of needs women may have in relation to smoking cessation.

Case study 1: Participant 23

Participant 23 was a 48 year old lady who had been diagnosed with two types of cancer. She was unable to work due to ill health and discussed how life had become *"24/7"* for her now as she had no other commitments to regulate her day. She reported sleeping throughout the day and staying awake throughout the night and had recently been hospitalised as a result of a nervous breakdown. Whilst she was in hospital she made the decision to quit smoking and requested smoking cessation support from the specialist stop smoking service. She was very unhappy with the treatment she received from the stop smoking service; she had one appointment with the nurse and reported that the nurse did not make contact with her again to arrange a follow-up appointment. She felt that this lack of contact resulted in her running out of pharmacotherapy which caused her to relapse

She believed that the nurse was unwilling to help her quit smoking because of her mental health problems. She stated,

> *"I definitely think … because I was in a vulnerable position at the time, she [the advisor] was like are you sure you want to give up? Are you sure? Every second sentence and I thought well is she trying to persuade me not to give up?"*

Participant 23 experienced guilt from continuing to smoke whilst being treated for a terminal illness. Due to this guilt she felt compelled to try and quit smoking. She had

used a few stop smoking groups previously to help her quit smoking. However, she felt these groups were unhelpful because;

> *"People just seemed to go there, they didn't want to talk about smoking, they just wanted to … get their prescriptions and go … there was no one to talk too and you just had a cup of tea and that was it, you went. It was all over in 20 minutes"*.

In an attempt to find support she tried to join a drug clinic near her home because *"to me it's just like being on Heroin, the compulsion is there all the time to smoke"*. However, the drug clinic did not take her seriously and she reported them laughing at her and dismissing her requests for support. Standard cessation support did not appear to provide Participant 23 with the level of support she felt she needed. She appeared to be searching for a form of cessation support whereby someone would allow her to discuss her situation rather than giving her advice about pharmacotherapy and the process of quitting smoking, she stated, *"Perhaps they just want to dispense the prescriptions … and talk sternly to people. Maybe it's a power position? … I presume more often than not they're people who haven't ever smoked in their lives"*.

This case study highlights the complexity of emotions that women may be experiencing when quitting smoking. Specialist stop smoking services should be equipped to cater for women who have intensive needs. However, Participant 23 felt that the nurse from the specialist service tried to discourage her from making a quit attempt and did not stick to her promise of getting in touch. Such a case study highlights that for extreme situations like those of Participant 23 standard cessation support may be failing to meet women's needs. However, at the other end of the spectrum some women may want very little cessation support. This was true for Participant 6 who is the subject of the next case study.

Case study 2: Participant 6

Participant 6 was a 41 year old woman. She was employed in a managerial position and owned her own home. She had recently got divorced and decided to quit smoking as she felt that it was becoming unacceptable within society. She hoped quitting smoking would improve her chances of finding a new partner as she felt smoking was an

undesirable trait. Quitting smoking was part of a series of lifestyle changes that Participant 6 was making post-divorce. She was also trying to increase her physical activity levels and felt she was *"starting a new chapter"* in her life.

Participant 6 reported doing some research prior to accessing cessation support about the available pharmacotherapy and cessation support options. She reported *"speaking to other people and reading a couple of bits and pieces"* because *"if I was gonna give up I was gonna give it my all and I wanted the best kind of support I could get"*. Support to Participant 6 primarily meant pharmacotherapy and she admits that if she had not required a prescription to use varenicline she would not have accessed NHS cessation support. She stated, *"to be honest I wouldn't have gone probably to the NHS stop smoking thing if I didn't need the prescription"*. Participant 6 wanted the cessation support she received to have a practical focus; she stated,

> *"I needed the practical side, give me the tablets, tell me what the tablets do if I've got any concerns who do I talk to about taking the tablets any side effects and just somebody to … report in to say I've not had a cigarette."*

These two case studies highlight the variation which may exist in terms of women's cessation needs. Furthermore, these examples illustrate how 'one size does not fit all' in relation to cessation support. Women had different ideas about the level of cessation support they required and the next subtheme explores whether women in the sample felt that they received the right level of cessation support for them.

6.2.1 Level of support required

Ten of the women who used an NHS stop smoking service felt that the support they received did not sufficiently deal with the emotional side of quitting smoking. A common criticism was that cessation support focussed too much on providing pharmacotherapy as a solution for smoking cessation and neglected the psychological relationship that women may have towards cigarettes. Participant 8 explained,

> *"They could be a lot more supportive really. They just seem to want to give you a prescription for nicotine replacement therapy and not cope with the fact that there are psychological problems with giving up"*

The need for increased cessation support was a common theme in this sample of women. Participant 19 accessed cessation support through her GP surgery and felt that there was a lack of support between appointments she stated, *"And who can I go to for support if I needed to … just somebody to say hang on a minute, it's worth it, think about it, give it two minutes"*. She felt that support was not available when she needed it and the only benefit was that she received NRT on prescription, otherwise she felt the support was no different to purchasing pharmacotherapy over the counter. These sentiments were echoed by many of the women interviewed, Participant 20 stated *"they say advisers but they're not there when you really need them"* and Participant 22 felt that the advisors just did not have the time to sit and talk how she would have wanted, she stated, *"It's a production line basically, they've got as many patients through the door as possible … they haven't got the time to talk to me … I do have a lot of fed up days. I have days when I feel I need to talk"*.

A few of the women interviewed expressed a desire for NHS cessation support to become similar to the template used by Alcoholics Anonymous. Participant 24 stated, *"for it to work with her I needed to have seen her every day just for like five minutes or 10 minutes like they do in AA, you know, that reaffirmation"* She continued to state, *"I think being able to go to a group and express your fears when you're tempted – and that's every day; it's not on a Tuesday at 7 o'clock – is very important to have that facility."* Participant 4 felt that daily support would be the most beneficial form of support for her, as she would have appreciated having someone to answer to each day to keep her focussed. However, in contrast two of the women interviewed felt that they had received too much support. Participant 25 felt that having an appointment every two weeks was too much and she would just prefer to get a prescription and do the rest independently and Participant 11 stated, *"I used to find it a bit awkward sitting there and talking about it for half an hour"*.

Six of the women interviewed accessed cessation support solely because they wanted assistance with the practicalities of quitting smoking (e.g. to get pharmacotherapy at a reduced cost/free or because they wanted access to prescription only medications, such as varenicline). Participant 18 provided an example of this; when asked why she approached her GP surgery for assistance with quitting smoking, she stated *"purely*

because I wanted the tablets". Women that reported accessing cessation support for advice and practical assistance did not feel that they required any emotional support. This highlights that some women may prefer less intensive cessation support options to help them quit smoking and therefore it is important to assess women's expectations and give women a choice to ensure they receive adequate support for their needs.

6.2.2 Format of cessation support

Flexible cessation support was important to women when quitting smoking. Seven of the women interviewed felt that having the option to call or text an advisor in between appointments increased the accessibility of cessation support. Participant 16 did not have the option to contact her advisor in between appointments and felt that it would have made existing support more accessible; she stated, *"It would be useful to have somebody on the end of a text that you could say I'm really sorry but I'm going to have a cigarette, and for them to say no don't do that"* and Participant 8 stated, *if you're having a bad time and you're not sure who you should ring, would be nice if you had someone you could just pick up the phone and say look I'm having a really rough day"*. Women that were unhappy with cessation support often appeared to have been given less flexibility about how they could access support.

The use of an appointments system in particular was deemed by many women to be inflexible as it presented a barrier which prevented women from accessing support when they needed it. Women also feared that an appointments system would be particularly restrictive for women in employment who may be limited in the times they were available to access cessation support. Eight of the women interviewed felt that having a location where they could drop-in for support when they needed it would provide a more accessible form of cessation support. Participant 16 stated, *"it should be a drop-in centre with people available to speak to you … more of a, 'well if you want to stop smoking come and see me tomorrow when you finish work and we'll have a talk about it'"* and Participant 4 stated, *"you definitely need centres for people to go … somewhere you could just walk in and see somebody rather than have to wait for an appointment next Wednesday"*.

6.2.3 Location, intervention type and staff

The location where cessation support was delivered was also important to women.

Participants 24 and 25 (both non-service users) felt that due to the increasing stigma associated with smoking they would appreciate a discreet stop smoking service; Participant 24 stated,

> *"I think the stigma attached to going to some doctor's surgery late at night and everybody knowing why you're there, I do actually think … most people have to be closet smokers nowadays … there's a lot of stigma attached to it."*

Participant 16 felt that she *"wouldn't want it so much connected with the doctors. Because I don't think smoking is an illness"* and she felt support offered in her workplace would be more accessible and Participant 18 felt support should be offered *"somewhere neutral"* and non-medical.

Women appeared to prefer 1-1 cessation support over group support. Only one woman in the sample had utilised group support in her most recent quit attempt. She felt that group support was the best way to quit smoking, she stated,

> *"I think it's far better in a group situation where you can go along, all the different participants give their own experiences, you can talk about it, you can give people confidence. I think that's what worked as far as I was concerned … you're seeing other people and you spur each other on don't you? For me that was far better than going down to the doctor's surgery and talking to a nurse who probably had never smoked in her life, because she's not going to understand how I feel" (P017)*

However, many of the women interviewed appeared to be strongly opposed to accessing group support. Participant 11 stated, *"other people might find it useful to sit in groups and chat about things but I don't. I would find that very awkward"* and Participant 10 stated, *"I wouldn't like the thought of people sitting in a circle, that's not me, I wouldn't speak, I wouldn't say anything"*. Furthermore it appeared that many of the women perceived group support to be quite formal and felt it should only be used by those who were struggling to quit. However, five women in the sample said they might have accessed group support but were not aware it existed locally.

The person who delivered cessation support was also important to women. Many expressed a preference for their advisor to be an ex-smoker because *"they would have more empathy … they would know the pitfalls and how difficult it is, so they wouldn't give you a hard time." (P023)* and Participant 18 felt that advisors

> *"need to be ex-smokers; because it's not something you can learn from a book, because they know what they're talking about, they've gone through all the feelings, because at the end of the day everyone who's stopped smoking goes through the same feelings, and unless you've gone through them you can't really say"*

Many women praised their advisor's ability to listen to them and understand their needs. Participant 9 stated that her advisor was *"lovely", "patient"* and *"wasn't insisting or forcing"* and Participant 13 stated *"she is a woman and she understands that we've got a lot of problems going on in our lives as it is being a mother and a grandmother"*. Participant 2 was happy that her advisor was not *"patronising"* when she relapsed and had a cigarette. Others such as Participant 1 felt that her advisor was particularly supportive she stated, *"that's what you need … support it's not just a case of going to these places and giving you the patches … you've got to have the support there. She is the back up behind it"*. Other women such as Participant 18 praised the nurse in her GP surgery for giving her flexibility and allowing her to make her own decisions about her quit date, she stated, *"There wasn't any … you have got to do this or you have got to do it this way … it was the complete opposite actually. She stressed to me you do how you feel comfortable … she was very good she didn't lecture me"*.

Women who expressed dissatisfaction with cessation support often felt that the advisor they saw was responsible for this. Participant 19 was unhappy with the nurse she saw in her GP surgery because she felt that she "*was made to feel [she] should be able to pack it in"*. Others such as Participant 22 felt they were *"lectured"*. Participant 24 felt it was very *"clinical"* and Participant 23 felt the nurse she saw "*was quite stern"* and stated, *"she was all nurse, tapping her finger on the desk, give me a quit date now. Some people are just enquiring, thinking about it, they don't want somebody heavy handed to come in banging on tables"*. Others felt that the cessation support they received was too rigid as the advisor did not allow them to make any decisions relating to their quit

attempt. Participant 11 explained how the nurse instructed her to set her quit date for the following week and spend time preparing to stop smoking. This frustrated Participant 11 as she was eager to quit smoking straightaway. This lack of involvement with decisions related to making a quit attempt was echoed by Participant 16 who felt her quit date was decided by the stop smoking advisor; she stated it was a case *"of them setting it and me just agreeing"*. Such examples suggest that some women may have limited involvement in decisions related to cessation attempts. This could result in women feeling disempowered and may result in disengagement from cessation support.

6.3 THEME FIVE: LACK OF AWARENESS ABOUT CESSATION SUPPORT OPTIONS

All women were asked why they chose the particular service provider to help them quit smoking over other available options. Only eight of the 23 service users and lost to follow up clients were aware that they could access a specialist stop smoking service instead of seeing a nurse or advisor through their GP surgery. Furthermore, only one of these women was aware that cessation support was also available within a pharmacy setting. Such findings imply that women had a low level of awareness about cessation support options available in their local area. The remaining fifteen women accessed cessation support through their GP surgery as they believed this to be their only option. These women felt that the stop smoking service offered through their GP surgery was synonymous with the specialist stop smoking service. When asked why they chose cessation support through their GP surgery, answers centred on requiring medication e.g. *"because that's the only way you can get Champix" (P015), "purely because I wanted the tablets" (P018)* or needing support e.g. *"because I didn't think I'd be able to do it on my own" (P014);* rather than due to a specific preference for their GP as a service provider.

Women had clear preferences about the type of cessation support they wanted to use. Five women wanted to use group support e.g. *"I wouldn't have minded going to a group but I wasn't aware of one" (P009); "There's no groups"* (P022). Whereas other women would have liked to access more flexible support options such as drop-in support, *"it should be a drop-in centre" (P016)* and *"I don't really see why it has to be at the doctors surgery. I don't see why there can't be a drop-in … maybe there is one …*

probably not" (P007). All of these options were available to women within their local area. The only support option that was not available to women was daily cessation support. Therefore women's suggestions to improve existing support options instead highlight a need to ensure that women are informed about the different options available to them when quitting smoking. Giving women the option to choose from a range of cessation support options could help to empower women who access cessation support. Furthermore, giving women a choice would increase involvement with the process of quitting smoking as women would be making informed decisions about the level of support they require to meet their cessation needs.

Awareness of cessation support options was particularly low amongst non-service users who were unsure what to expect from cessation support. Many were concerned that accessing NHS support would result in an advisor patronising them or telling them off. Participant 27 stated *"that's how I perceive it … someone sitting there looking down their nose at me going you do know what smoking is doing to you don't you?"* Such beliefs led to women stating that they would prefer to quit alone rather than using NHS support. Four of the five women in the focus group discussed how they would be more inclined to access services if they knew what to expect from them e.g.

> *"I would need to know you're not gonna get a … lecture. I'd like to be able to go in and say hello my name is this, give me patches for this week, thanks very much goodbye and if you don't want to talk about it you don't have to"(P028)*

This highlights the importance of promoting the different cessation support options available to smokers (particularly the less intensive routes which may be less off-putting to some non-service users).

Increased knowledge of available cessation support empowered women to change support if they were dissatisfied with the service they accessed. Two of the women interviewed discussed how they had tried different support options and opted for the service that most suited their needs. They stated:

> *"The GP couldn't give me a whole load of advice because he hasn't got a lot of time to sit and talk every week or every other week. I found that helpful about … the stop smoking service because you had your time to go in and speak through*

how your week had been … it's a more personal service with the stop smoking clinic." (P002)

"I went to the GP once and just saw the nurse … I can't remember what happened but she really got my back up and I thought well this is not the way that it's meant to work, you don't want someone to sit there and moan at you … so I changed straight from her to a smoking advisor cause I thought this is just doomed to fail. Each time [I've quit] it's been the stop smoking service and they're wonderful" (P011)

However, a low level of awareness of support options can result in women disengaging from cessation support. A case study is now presented to illustrate this point.

Case study 3: Participant 21

Participant 21 was a 52 year old woman who lived in social housing with her husband, daughter and grandchild. She suffered with arthritis, diabetes and coronary heart disease and admitted that she rarely left the house. She feared that quitting smoking was not possible as she believed that the cravings associated with cigarettes would not diminish after smoking cessation; she stated, *"everybody I speak to who has given up say you never lose that craving"*. However, she reported making a quit attempt in response to health and financial concerns and also due to fear that she was influencing her grandchild. Participant 21 believed that cessation support was only accessible through her GP surgery and consequently arranged an appointment with a cessation nurse through her surgery. However, Participant 21 felt that the nurse was not the most appropriate person to deliver cessation support. She stated, *"It still narks me that she sat there … never smoked in her life … she should not have been doing that job … I'd rather it had been somebody who has been there, seen it and done it"*. Participant 21 felt that the nurse (due to her age) had no experience or authority to advise someone about quitting smoking.

This experience led Participant 21 to disengage from cessation support. She did not attend her follow-up appointment and dismissed cessation support as "*useless"* and pharmacotherapy as having *"no effect … the inhaler is like puffing on fresh air"*. Although it is possible that her belief that smoking cessation was incredibly difficult to

achieve led her to seek out justifications to disengage from the cessation support; an increased awareness of available support options in her local area may have led her to consider other service providers rather than disengaging from NHS cessation support completely. If she decides to quit smoking in the future she said she would attempt to quit *"cold turkey"* rather than accessing NHS support because she does not want to see the nurse again. It is possible that she would find other advisors better placed to give advice about quitting smoking. However, as she has no awareness that other service providers exist she has disengaged from all NHS cessation support. This case study highlights the vital importance of giving women a choice of different cessation support options.

6.4 THEME SIX: REPEATED QUIT ATTEMPTS

Women within this sample had made an average of five previous quit attempts. Furthermore, the average length of previous quit attempts was 6 months (although it ranged from 1 day to 5 years). Within the sample, women's lives were punctuated by periods of abstinence and relapse back to smoking in relation to events within the women's lives such as births or deaths e.g. *"My daughter when she was pregnant, I thought well I'm going to be a grandmother I need to pack it in or cut down" (P013); "the longest quit attempt was probably the 6-8 years when the children were little … all that time I never even thought of cigarettes" (P004); "I stopped smoking for two years never smoked at all and then my sister died two years ago and that's when I started smoking again" (P022).* Other women reported how a change in social groups as a result of starting a new job or starting a new relationship could also cause a lengthy quit attempt. Even a holiday caused one woman to make a quit attempt; Participant 5 went to Australia for a wedding and quit smoking for eight months she stated;

> *"the main reason that I gave up … end of October not last year the year before, my niece was getting married [in Australia] … there was no way I was going to be chewing my nails and getting stressed on a 24hour flight … and Australia was the first place that stopped smoking in public areas"*

Although the women in this sample had made multiple quit attempts, cessation support had a short-term focus lasting for approximately 12 weeks with cessation success judged at 4 weeks. Many women recognised that smoking cessation was often a

temporary change. The group of women labelled ambivalent quitters (in Chapter 5) outlined factors which they felt would lead to their relapse. Given the fact that many quit attempts fail to achieve longevity one could question whether the short-term focus of cessation support is appropriate for what appears to be for many a long-term habit. Smoking cessation support aims to promote abstinence rather than support relapse prevention. A case study is now presented about Participant 9 who accessed cessation support for help to avoid relapsing.

Case study 4: Participant 9

Participant 9 was a woman aged 54, who managed to quit smoking for 5 years. However, she recently accessed smoking cessation support at her local pharmacy as she felt that she needed additional pharmacotherapy to prevent her from relapsing. She saw cessation support as a "*refresher course*" to pre-empt herself from relapsing back to cigarettes. She enjoyed her fortnightly appointments with the pharmacist "*chatting about smoking*". However she expressed mild frustration at the fact the support she received was aimed at cessation and not geared towards relapse prevention. She stated,

> *"I mean he basically treated me as a smoker … I kept trying to get this over to him I am not a smoker … I'm not smoking I just want some lozenges because I don't want to smoke. I don't want to go out and buy that packet and so I think we were sort of at different … he was seeing me through coming off cigarettes but I said no I'm not a smoker I just really want to come here and get some lozenges. I don't really want to talk to you that much but he would just go through the form".*

This example serves to illustrate that although cessation support may be designed to assist people with quitting smoking. Women may utilise cessation support for other reasons such as relapse prevention. The support Participant 9 received was not tailored to meet her needs and she was treated as if she was quitting smoking for the first time. Participant 9 was the only interviewee in the sample who reported accessing cessation support for relapse prevention. However, given the difficulty smokers experience in trying to achieve abstinence, similar experiences may be shared by women accessing cessation support across the UK.

6.5 THEME SEVEN: VIEWS ABOUT PHARMACOTHERAPY USE

This theme explores women's views about pharmacotherapy. The theme contains two subthemes; the first subtheme explores women's opinions about the effectiveness of pharmacotherapy and the second subtheme examines women's beliefs about the acceptability of pharmacotherapy use.

6.5.1 Beliefs about the effectiveness of pharmacotherapy use

A total of 20 (out of 30) women used a type of NRT to assist them with quit smoking in their last quit attempt; whereby the majority of women used a combination of NRT products. In comparison, only eight women used varenicline to help them quit smoking and two of the non-service users had never used pharmacotherapy before.

The majority of women felt pharmacotherapy was an effective way to reduce cigarette cravings compared to cold turkey withdrawal methods. Participant 2 stated,

> *"the patches and the gum definitely eased off the cravings a lot more because the time before (when she used no pharmacotherapy) I was constantly craving cigarettes all the time whereas this time … it was a lot easier to go through with the patches and the gum … by the time I had finished the gum the craving had gone and then I could carry on with what else I wanted to do"*

Many women felt that pharmacotherapy was effective in helping with the physical side of addiction but did not help with the psychological nature of addiction. Participant 24 stated, *"Patches are great but if you've got a psychological need you need to get the support"* and Participant 2 stated,

> *"I think a combination of all three (support, patches and gum) together worked better for me I wouldn't have been able to do it with just the support and I don't think I would have been able to do it with just the patches because they sort of worked alongside each other"*

However, some women were sceptical that pharmacotherapy was effective in the long-term. Such concerns were voiced by Participant 11. She discussed how she had quit smoking previously using both varenicline and NRT. However, she found that both times she relapsed after three months once she stopped using pharmacotherapy, thus she

questioned its long-term effectiveness; she stated, *"if I could just carry on using NRT forever I would be ok"*.

Others such as Participant 22 felt that pharmacotherapy was only effective if people were motivated enough to quit smoking she stated, *"I think the Champix works but I just haven't got that … enthusiasm"*. Other women felt that pharmacotherapy would make them quit smoking without them making a conscious effort. Participant 20 discussed how she had used varenicline for two weeks but continued to smoke because she was waiting for a "*cut-off point*" whereby she would suddenly stop smoking, she stated *"I thought it was going to fade away and then get down to one … I'm just sort of waiting for it … I thought that [varenicline] was going to be the answer"*. There are concerns that such unrealistic expectations may lead to pharmacotherapy being dismissed as ineffective.

6.5.2 Acceptability of pharmacotherapy use

Women raised concerns about the social opinions surrounding NRT use. Many women reported experiencing other non-smokers laughing about someone using NRT, which had made them self-conscious and reluctant to use NRT in public. This could have negative consequences, for example Participant 8 heard her work colleagues mocking her inhalator and therefore decided she would not use it in public. She consequently went out socialising without it and was surrounded by smokers and relapsed, she stated,

> *"I did … use the inhaler … but lots of people kept saying why are you smoking a tampax so I got a bit self-conscious with it I thought I don't want to sit in a pub cause people might think … why is she smoking what looks like a tampax and so I'd go outside or go in the toilets … so I said oh no I'm not gonna use it anymore and that was the week before I went out … I'd been out on the 2 nights out with them already and I hadn't gone back to smoking but then the other ones they were all laughing … so I hadn't used it for a week when I went out again … and then I badly crashed out"*

Other women highlighted that they would prefer a discreet form of NRT. Participant 9 stated, *"I didn't like the fact of … being well into my 40's and chewing gum"*. This

suggests the perceived social opinion of NRT products may affect a women's view on the acceptability of pharmacotherapy use.

Other women in the sample were more accepting of pharmacotherapy and reported long-term use; Participant 8 reported *"I'm addicted to the gum now"* and Participant 18 stated, *"I've got a friend who's given up with the lozenges and he's still on the lozenges six years later"*. However, women in general expressed concerns about long-term use of pharmacotherapy as they felt they might be switching one addiction for another.

Many women compared the experience of using NRT (particularly the inhalator) to that of smoking. Generally speaking women felt that NRT paled in comparison to the experience of smoking. Participant 17 stated,

> *"The inhalator, it's a poor substitute for a cigarette. They're okay but it's not the same thing. It doesn't taste the same … It's not like having a cigarette … you're not actually getting the taste of the tobacco are you? … but for somebody who's a smoker, I mean the whole thing is the taste of the tobacco and the nicotine, it's not just the one is it? So the inhalator, it was a poor substitute. It did take the craving, the nicotine craving away, but it didn't actually satisfy the want for a cigarette"*

Participant 16 stated she did not *"get any satisfaction out of"* the inhalator. However, she felt that the 'e-cigarette' was a worthy cigarette substitute *"because it's giving me the whole cigarette feel rather than just sucking on a bloody piece of plastic"*. Furthermore this was the first time she talked at length about anything during the interview. Without being prompted she talked with excitement about the prospect of using an 'e-cigarette'. Furthermore, some of the contented smokers discussed the 'e-cigarette' and felt that it was a favourable alternative to the inhalator. Participant 8 felt that it would be good in social situations as *"it actually looks like a real cigarette"*. However, the act of comparing NRT and cigarettes suggests that these women may be viewing NRT as a cigarette substitute rather than seeing it as a cessation aid. Participant 10 stated that she wished that they would *make "a cigarette that is totally harmless and … doesn't smell" as she wants to "breathe out smoke"* thus revealing in an ideal world her desire would be to continue to smoke but without the harmful effects.

6.6 THEME EIGHT: OWNERSHIP

All women (except one) who accessed NHS cessation support felt that they were ultimately responsible for the outcome of their cessation attempt. Such a belief appeared to stem from the acknowledgement that quitting smoking required a certain level of motivation or determination on their part for them to succeed. This did not mean that women felt that they should be able to quit without the help of NHS cessation support. Instead they perceived themselves and their motivation to be the crucial component within a cessation attempt (see Chapter 5 Theme 2). Women appeared reluctant to criticise existing NHS cessation support and hesitated to suggest potential improvements that could be made to cessation services. This occurred in part due to the belief that services were publicly funded and did not have infinite resources. However, mainly women felt that quitting smoking was their own responsibility and cessation services were not viewed as responsible for motivating individuals to quit smoking. Participant 20 illustrated this when she stated that cessation services could only provide a certain amount of support and the rest was down to the individual she stated, "*they can only do the best that they can do … I think it's up to the smoker"*. This was reiterated by Participant 11 who stated,

> *"To be honest I don't think they can do any more. I know all of the information … I've read all the leaflets, I've seen the downside of it in black and white … it's down to the individual … they can support people they can give people the information but I think at the end of the day it's got to be down to you. You've got to take responsibility for your own actions really and I take full responsibility for the fact that I haven't managed to do it"*

Taking responsibility for a successful quit attempt appeared to be empowering for women as they were left feeling positive and happy that they had quit smoking successfully. However, twelve women in the sample had made an unsuccessful quit attempt. Taking individual responsibility for an unsuccessful quit attempt appeared to be disempowering for women who (with the exception of Participant 21, who blamed her advisor), appeared to solely blame themselves for their lack of cessation success. Women appeared to internalise their lack of cessation success into a personal failure; Participants stated *"I've always felt a complete failure, when I've failed"* (P011), and *"I*

had failed" (P022). Such feelings had detrimental consequences and appeared to act as a barrier which prevented women from returning to cessation services. Participant 16 stated, *"I felt so guilty that I just couldn't, wouldn't go back";* furthermore, she continued to state *"you've got this nurse who you look at as being an authority… and you've failed, and you don't want to go back and say look I've failed because you feel guilty"*. Participant 24 also stated that she would be reluctant to return into the services because she believed that *"it's too embarrassing because I've had too many goes, they're sick of me … and I don't think there's any sympathy left there for me"*. These findings suggest that making an unsuccessful quit attempt may be associated with reluctance to re-access cessation support due to fear of being judged for their inability to quit smoking.

Women appeared to take ownership for the outcome of a quit attempt even when they reported receiving a lack of support from cessation services. This was the case for Participant 23 who found her local stop smoking group to be unsupportive; she stated, *"the smoking group nearest me, the people just seem to go there for their prescriptions and leave. They don't want to be social. They just want to get their nicotine patches and go"*. Furthermore, Participant 23 was not provided with any follow up support in a subsequent attempt; *"she said she was going to phone and she didn't follow up"*. After such experiences it would be understandable for Participant 23 to be critical of the NHS support she received, however, she was hesitant to criticise the local smoking cessation service as she felt her lack of motivation was responsible for her unsuccessful quit attempt, she stated, *"I think stop smoking services are good for the majority of people. Because I think people are more motivated than I am"*. Interestingly she stated that if other women were motivated and had *"the support of family and friends, and … a good group which does support you, and people do return their phone calls, then I think they've got a fairly good chance of being successful."* Although a lack of motivation is likely to be associated with making an unsuccessful quit attempt; it should not excuse poor cessation support.

6.7 DISCUSSION

A key finding within this Chapter related to the variation in the level of support women needed when quitting smoking. Some women felt that the cessation support provided

was too in-depth as they wanted to get their prescriptions and leave whilst engaging in limited conversation. In comparison other women felt that cessation support was not intensive enough as it was geared towards issuing pharmacotherapy. There was also a concern that support was limited when offered on a weekly basis as women had no-one to turn to in between appointments. Stop smoking services offer different types of cessation support (group, 1-1, or drop-in support) in a variety of locations (GP, pharmacy and community venues) (DH, 2012). However, women within this sample appeared to have a low level of awareness about the cessation support options that were available to them. The majority of women in this sample accessed cessation support through their GP surgery as they felt that this was their only option. Such a finding raises questions about informed consent. The NHS constitution states that service users,

> *"have the right to make choices about your NHS care and to information to support these choices. The options available to you will develop over time and depend on your individual needs. … The NHS commits to inform you about the healthcare services available to you locally and nationally. … The NHS commits to offer you easily accessible, reliable and relevant information to enable you to participate fully in your own healthcare decisions and to support you in making choices."* (Pg48) (DH, 2010).

Therefore a need exists to promote the existence of the different cessation support options so that women are able to make an informed choice about the most suitable support option for their needs. This is an important finding as increasing awareness of the different support options would allow women to choose the most appropriate support option for them which might increase their level of autonomy they feel towards quitting smoking. Furthermore, giving women an informed choice would allow women with more intensive support needs to seek out the best format for them.

Only a few studies have explored service user experiences of NHS cessation support and no research has examined women's experiences of using NHS stop smoking services. Therefore the results of this study provide an insight into the cessation needs of deprived women which might help to improve cessation services and in turn quit rates. Factors that were considered important to the women interviewed are discussed in the following sections.

i) Drop-in support

Women expressed a preference for drop-in clinics over appointment systems as they felt this increased the flexibility of cessation support. Women felt that appointments acted as a barrier which reduced the accessibility of stop smoking support. Other qualitative research supported this finding and indicated that deprived smoker's expressed a preference for drop-in cessation support (Henderson, Memum, Lawson, Jacobs, & Koutsogeorgou, 2011; Murray, Bauld, Hackshaw, & McNeill, 2009). A few women felt that it would be beneficial if cessation support was offered permanently in a fixed location on a drop-in basis so that they could access support when they needed it. However, this format of cessation support may not be financially viable for the NHS within the current economic climate.

ii) Support between appointments

Many of the women interviewed felt that it was beneficial to have the option to text or call an advisor in between smoking cessation sessions. This was supported in other research. Focus groups conducted in Brighton and Hove highlighted that deprived smokers found the use of text and telephone contact with advisors in between appointments to be beneficial (Henderson, et al., 2011). This type of telephone intervention is reactive (i.e. it is initiated by the service user rather than the advisor) (Lichtensten, Glasgow, Lando, Ossip Klein, & Boles, 1996). Although there are methodological difficulties surrounding the rigorous evaluation of reactive telephone interventions for smoking cessation (as advisors or helplines do not want to reject calls for assistance in order to establish a control group) (Stead, et al., 2006); it may offer a useful addition into existing cessation support and may increase the accessibility of stop smoking services. Research has mainly examined the effect of proactive forms of these interventions (i.e. whereby support is pre-determined by an advisor/or a structured programme). However, evidence suggests that electronic interventions provide an effective platform to assist smokers in quitting smoking (Bennett & Emberson, 2011; Etter, 2006; Free et al., 2011; Graham, Cobb, Raymond, Sill, & Young, 2007; Shahab & McEwen, 2009; Stead, et al., 2006; Whittaker et al., 2009). Telephone, text or online support represent additional components of support which could be utilised by smokers in addition to or instead of existing NHS cessation support. Future research could

examine the feasibility and utility of combining these formats of support (in both reactive/proactive contexts) within existing NHS cessation services.

iii) Advisors delivering support

Wider research found that disadvantaged smokers expressed a preference for the person delivering cessation support to be 'down to earth' and approachable (Henderson, et al., 2011). Within this study women expressed a preference for cessation advisors that were ex-smokers or individuals that they could relate too. In Liverpool existing cessation services were adapted so that cessation support was delivered by lay people who had been trained to become stop smoking advisors. The new service was called the Roy Castle Fag Ends (RCFE) stop smoking service. Quit rates of the RCFE's service appeared higher compared to the quit rates of cessation services in geographically similar areas (Owen & Springett, 2006). Wider literature has indicated that lay advisors can effectively deliver behaviour change interventions (Ayala, Vaz, Earp, Elder, & Cherrington, 2010; Castaneda, Nichter, Nichter, & Muramoto, 2010; Kim, Koniak-Griffin, Flaskerud, & Guarnero, 2004) However, further research is required to establish whether the use of lay people or ex-smokers would improve quit rates amongst the most deprived smokers.

iv) Location of cessation support

A systematic review which examined ways to increase access to cessation support amongst disadvantaged smokers found that providing support in a variety of settings (e.g. dental surgeries, pharmacies and within the workplace) increased access to cessation services (Murray, et al., 2009). However, women within this sample identified that they would prefer support to be delivered informally in non-medical locations which they felt would reduce any stigma associated with attending a stop smoking clinic. Therefore, it is possible to question the effectiveness of cessation clinics that are established in dental surgeries and pharmacies which may have medical connotations. Moreover, workplace cessation support may not reach the most deprived smokers who may be unemployed (and in the case of women) may be looking after children.

v) Group support vs. 1-1 support

Smoking cessation guidelines recommend that group support should be offered to smokers as the main form of stop smoking support (Raw, et al., 1998; West, et al.,

2000). Wider literature has suggested that group support may be more effective than 1-1 stop smoking support (Bauld, et al., 2010; Judge, et al., 2005; McEwen, et al., 2006; The Information Centre, 2012). Data collected from the English stop smoking services between April 2010 and March 2011 found that closed groups had an estimated 4 week quit rate of 60% compared to the 48% quit rate of individuals using 1-1 support (The Information Centre, 2011c). However, within this research 1-1 support was the main form of support accessed by women (and smokers generally in Chapter 4).

The qualitative research showed that some women held negative opinions about group support perceiving it to be too formal in nature. A perception existed that group support should be used only if you had struggled to quit previously and needed a more intensive form of support. Such negative views about group support have been reported in other research. Interviews conducted through a London GP surgery found that smokers expressed reluctance to access group cessation support (Vogt, Hall, & Marteau, 2010). However, justifications given within this study centred around feeling uncomfortable about sharing information in a group setting. If group support is more effective than 1-1 support then it may be helpful to try to dispel any myths that may be associated with using group support, in an attempt to improve access rates.

vi) Views on pharmacotherapy

Wider research indicated that deprived smokers were sceptical about the long-term effectiveness of NRT (Roddy, et al., 2006; Wiltshire, et al., 2003). Believing pharmacotherapy to be less effective has been associated with lower cessation outcomes (Vogt, Hall, & Marteau, 2008). Within this study a few women raised concerns about the long-term effectiveness of NRT; however, it was generally accepted by women in this sample as an effective smoking cessation aid. However, despite endorsing pharmacotherapy as effective, all women felt that they were ultimately responsible for the outcome of their quit attempt. This belief about individual responsibility was also found in a qualitative study in Nottingham. Deprived smokers reported that successful smoking cessation was due to willpower (Roddy, et al., 2006). It is possible that such a belief occurs as a consequence of the rise in government policies which promote the role of the individual in managing health (DH, 2004). However, the current research indicated that taking ownership for an unsuccessful cessation attempt resulted in some

women blaming themselves for an unsuccessful quit attempt and disengaging from cessation services. Therefore, a need exists to challenge such beliefs. Inarguably an individual's motivation plays a role in their smoking cessation outcome. However, smokers who use pharmacotherapy and use evidence-based services are four times more likely to quit smoking compared to smokers who use willpower alone (Ferguson, et al., 2005). The quantitative research (in Chapter 4) and wider literature has shown that smokers often under use pharmacotherapy or do not use it for the recommended length of time which can impact on cessation outcomes (Shiffman, Hughes, Pillitteri, & Burton, 2003; Shiffman et al., 2002). Therefore, it may be useful to create awareness amongst smokers about the importance of other factors (in addition) to motivation which might have a bearing on cessation outcomes in a bid to prevent smokers from blaming themselves for unsuccessful quit attempts and disengaging from services.

In England in 2011 an estimated 46.5% of smokers made an unassisted quit attempt (without pharmacotherapy or support) (West & Brown, 2012) . Therefore, it is useful to consider the acceptability of pharmacotherapy use. Research has tended to explore the effectiveness of pharmacotherapy on cessation outcomes (Cahill, et al., 2011; Gonzales, et al., 2006; Stead, Perera, et al., 2008). Within this study, although women endorsed pharmacotherapy as effective, some women expressed concerns that they did not want to be seen using pharmacotherapy. Furthermore, some of the women interviewed appeared to view pharmacotherapy (particularly the nicotine inhalator) as a cigarette substitute rather than a cessation aid. This led to some women preferring other cigarettes substitutes such as the 'e-cigarette'. The rise in favourability of the 'e-cigarette' has been documented in wider research (Dockrell, McNeill, & Hari, 2010; Foulds, Veldheer, & Berg, 2011) amidst continued concerns about product safety. The UK government have stated that smokers that find it difficult to abstain from smoking should be allowed to use pharmacotherapy for extended periods of time as a cigarette substitute (HM Government, 2011a). However, as smokers are often reluctant to use pharmacotherapy for the recommended time period (West & Brown, 2012), there is a need to further explore the barriers that prevent pharmacotherapy use amongst smokers.

vii) The focus of cessation support

The vast majority of women within this sample had made a previous attempt to stop

smoking. Many of the women recalled periods of abstinence and relapse throughout their lifecourse. Such a finding raises questions about the appropriate focus of cessation services which provide short-term support to smokers to assist them with quitting smoking. One participant accessed cessation support for help in avoiding relapse and was frustrated with the fact that this aspect of behaviour change was not catered for within her local service. Tobacco dependence has been labelled a 'chronic relapsing disorder' (McEwen, 2013) and it is estimated that 75.0% of smokers that make a quit attempt will have relapsed within 6 months (Coleman et al., 2010). Therefore, a need exists for stop smoking services to deliver relapse prevention. Research which explored stop smoking advisors views on relapse prevention highlighted that they were happy to deliver such features of support but expressed a need for guidance on evidence based methods to prevent relapse (Coleman, et al., 2010). A recent Cochrane review concluded that insufficient evidence existed in terms of effective relapse prevention strategies (Hajek, Stead, West, Jarvis, & Lancaster, 2009). Therefore further research should seek to identify effective relapse prevention strategies that can be used within the remit of NHS cessation support.

The aim of this Chapter was to explore women's experiences of using NHS cessation support in an attempt to identify ways that support could potentially be improved to further meet women's needs. The most important finding within this Chapter was that women had a lack of awareness about available cessation support options. Most types of cessation support that women expressed a need for such as drop-in clinics or the ability to contact advisors in between appointments existed within the current service structure. Therefore, a need exists to promote all service options to women (and smokers in general) so that they can make an informed choice about the most appropriate format of cessation support for their needs. Women also expressed a preference for ex-smokers to deliver cessation support and for cessation support to be delivered in non-medical locations. One-to-one support was the most common format of cessation support. Some interviewees wanted to access group support but were unaware of its availability within their area. Whereas in contrast other interviewees were disinclined to access group support as it was perceived to be too formal. Pharmacotherapy was viewed as effective at assisting smoking cessation but not all women viewed it to be socially acceptable which might hinder its use. Lastly the need to include relapse prevention as part of

cessation support was identified. The final Chapter within this thesis considers the implications of these findings and the findings from Chapters 4 and 5 in terms of existing smoking cessation policy.

CHAPTER SEVEN: DISCUSSION

7.1 INTRODUCTION

A mixed method approach was used within this research in an attempt to understand women's experiences of smoking cessation and the factors that affect smoking cessation outcomes in women. Furthermore disadvantaged women's experiences of using NHS cessation support were explored. The research consisted of two studies; the first study was a secondary data analysis of service use data from four different NHS smoking cessation services. The second study was a qualitative investigation into women's experiences of smoking, smoking cessation and NHS cessation support. This Chapter is organised into four sections. First, key findings of the research are presented in relation to the research questions of the thesis. The second section examines the importance of the research and considers the contribution of the research's findings to current knowledge. The third section highlights worthy avenues for future research and implications of the findings to wider policy. The final section summarises the conclusions that can be made about the research.

7.2 KEY FINDINGS

The secondary data analysis examined service use data collected by cessation services in Glasgow, North Cumbria and Nottingham. The purpose of the analysis was to explore four research questions.

1. Are women less successful at quitting smoking using NHS cessation support?

2. Do sex differences exist in smoking behaviour and access to NHS cessation services?

3. What are the determinants of smoking cessation success in women using NHS services?

4. What role does disadvantage play in smoking cessation in women who use NHS support?

Overall, the data from these services suggested that women were less likely than men to quit smoking when using NHS cessation support. Differences in cessation outcomes between men and women may be largely explained by the social position of women. Women that used NHS cessation support appeared to experience more markers of disadvantage compared to men. Women were more likely than men to live with children and to live without a partner. Given this difference, it was expected that these factors would predict the smoking cessation outcomes of women. However, with the exception of free prescription entitlement (which also predicted cessation outcomes in men) no markers of deprivation or household circumstances predicted the smoking cessation outcomes of women. An association did exist between markers of deprivation and addiction, and therefore it was hypothesized that these two variables interact to affect the smoking cessation outcomes of women. Furthermore, as markers of addiction unexpectedly appeared to be important in determining the smoking cessation outcomes of women, a key focus of the qualitative investigation was to explore women's experiences of addiction to gain insight into what women deemed were important influences on their smoking behaviour.

The qualitative investigation had the following research questions:

1. What are women's experiences of smoking and addiction?
2. What are women's attitudes towards and experiences of smoking cessation?
3. What are women's experiences of using NHS stop smoking services?
4. What are women's experiences of using pharmacotherapy?
5. What improvements do women feel could be made to the NHS stop smoking services to make them more effective for disadvantaged women?

Results (in Chapter 5) highlighted that although smoking behaviour was influenced by addiction and habit; smoking appeared to be an emotional dependency for all women interviewed to varying degrees. Women reported using smoking as a way of coping with stress and low mood. Health and social stigma were cited by women as the main motivating factors for quitting smoking. Furthermore, many women reported feeling pressurised to quit smoking. Feeling pressure appeared to increase the likelihood of

women making a quit attempt. However, all women agreed that motivation (or determination) was the most important component within a cessation attempt. Cessation success was attributed to being determined to quit smoking. Unsuccessful cessation attempts were attributed to acting with less autonomy (i.e. quitting smoking because it was the right thing to do rather than due to personal choice).

Women's experiences of NHS cessation support were reported in Chapter 6. A key finding from this Chapter was that women had little awareness about the cessation support options available to them. Consequently, women were not making informed choices about the cessation support option they used. Expectations surrounding cessation support were variable; some women felt that services could have provided them with more intensive cessation support, whereas others felt that services could focus more on the practicalities of quitting smoking. Accessibility and flexibility were deemed to be crucial aspects of cessation support for the women interviewed. Women favoured drop-in clinics over fixed appointments and felt that the option of support via telephone in between appointments would have been useful. Women also felt that services may be more appealing if they were based in non-medical locations and support was delivered by ex-smokers. Many women perceived group support to be too formal and consequently preferred the option of 1-1 cessation support.

Women felt pharmacotherapy was effective at assisting people to quit smoking providing they were motivated enough to stop. Many women raised concerns about the acceptability of using visible forms of pharmacotherapy (such as NRT gum and the inhalator) in public. Pharmacotherapy was viewed by some women as a cigarette substitute rather than a cessation aid. For many women; smoking cessation did not appear to be a long-term change and the long-term effectiveness of pharmacotherapy was questioned.

7.3 WHAT HAS THIS RESEARCH CONTRIBUTED TO KNOWLEDGE?

The thesis made two key contributions to knowledge; firstly the findings of this research appear to extend understanding about women's experiences of addiction (see section 7.2.1). Secondly, the findings give an insight into women's experiences of cessation support. Collectively these findings highlight ways that NHS cessation support could be

improved to meet women's needs which might improve the cessation outcomes of women using NHS support. These key findings and their contribution to wider knowledge are discussed in the following two sections.

7.3.1 Women's experiences of addiction

Previous research hypothesized that situational factors (such as contexts and cues) rather than markers of nicotine addiction were important in mediating the smoking behaviour in women (Payne, 2001; Perkins, 1996, 1999, 2001; Perkins, et al., 1999; Perkins, et al., 2001; Perkins & Scott, 2008). This assertion has been supported by other research which has shown that women use smoking to cope with the demands of caring for children as well as to cope with other socioeconomic stressors (Graham, 1993; Greaves, 1996; Stewart, et al., 1996). Furthermore, the experience of negative affect has been strongly associated with smoking behaviour (Graham, Inskip, et al., 2006; Hiscock, et al., 2010; Kassel, et al., 2003; Kotz & West, 2009; Morrell & Cohen, 2006; Siahpush, 2004; Siahpush, et al., 2002). The research presented in Chapter 5 highlighted that smoking was used by all women (to varying degrees) as a coping strategy for dealing with stress and negative affect within daily life. Although this finding alone was not new, the research highlighted that the use of smoking as a coping strategy was endorsed by all women interviewed as a way of coping with a range of daily stressors and significant life events (not just caring responsibilities). Consequently, many women appeared to have an emotional attachment to smoking and therefore, although situational contexts and cues may be important in maintaining smoking behaviour in women, smoking may be a behaviour that women become emotionally dependent upon.

The secondary data analysis highlighted that lower cessation rates were only observed for women when they used NRT to assist them with quitting smoking. This finding has been consistently reported in wider literature (Perkins, et al., 1992; Perkins & Scott, 2008; West, Hajek, et al., 2001) as evidence that physical facets of nicotine addiction are less important in the maintenance of smoking behaviour in women. However, in contrast findings of the regression analysis showed that markers of physical addiction (such as time taken until the first cigarette of the day, the number of cigarettes smoked each day and ease of 24 hour abstinence) were important predictors of smoking cessation outcomes in women. Therefore, the findings of the thesis appear to be

contradictory. However, one hypothesis may explain the findings of the thesis. If women are emotionally dependent upon cigarettes then smoking may be very context driven whereby situations deemed stressful or upsetting may lead women to have an increased desire to smoke (Childs & De Wit, 2010). This association might lead to increased nicotine addiction particularly if individuals increase their cigarette consumption as a result of stress or negative affect. Given these assumptions it could be argued that women develop a deeper addiction to smoking, whereby they develop both a physical and emotional reliance towards cigarettes. Therefore, lower cessation outcomes observed in women using NRT could be explained as a consequence of NRT not supporting the emotional attachment that women may have towards cigarettes, rather than highlighting that addiction is less important to women.

The social positioning of women may mean that they are more likely than men to become emotionally dependent upon cigarettes. Women are more likely to experience markers of disadvantage compared to men; e.g. to have a low income and have caring responsibilities (Annandale, 2009; Bardasi & Gornick, 2000; Breitenbach & Wasoff, 2007; DIUS, 2008a, 2008b; Graham, 2007; Graham, Francis, et al., 2006; Graham, Inskip, et al., 2006; Harman, et al., 2006; ONS, 2011a; Singh, et al., 2001) (see Chapter 2 for a more detailed discussion of the social position of women). Experiencing disadvantage has been associated with higher levels of stress and negative affect (Adler et al., 1994; Adler & Conner-Snibbe, 2003; Cohen, Doyle, & Baum, 2006; Wilkinson, 1996). Furthermore, women have been reported to have increased rates of depression and anxiety (Chonody & Siebert, 2008; Van de Velde, et al., 2010) which have been strongly associated with increased nicotine dependence (Breslau, et al., 2004; John, et al., 2004). Furthermore, research has shown that smokers with high levels of anxiety are more likely to report smoking to cope with negative emotions which consequently is associated with reduced cessation outcomes (Brown, Kahler, Zvolensky, Lejuez, & Ramsey, 2001; Shiffman & Waters, 2004).

Therefore, it is hypothesized that the social position of women is ultimately responsible for their lower cessation outcomes when using NHS cessation support. It is proposed that reduced quit rates occur as a consequence of experiencing disadvantage which exposes women to increased levels of socioeconomic stress. It is hypothesized that

increased stress will lead to women becoming emotionally dependent upon cigarettes. However, such a pathway warrants further exploration. However, at first glance such hypotheses do not appear to explain why sex differences have not been found in the quit rates of men and women in the general population (Jarvis, 1994; Jarvis, et al., 2012; Vangeli, et al., 2011). However, women that access cessation services may represent an atypical population (Jarvis, et al., 2012). Moreover, men and women's lives have become similar throughout the 20th Century which has led to some academics arguing that gender has become less important in influencing health outcomes compared to other factors such as SES (Annandale, 2009). In the Glasgow samples of the secondary data analysis, men and women appeared to experience similar levels disadvantage and consequently there were no differences in relation to cessation outcomes. The deprivation gradient in smoking behaviour and cessation outcomes has been well accepted (Hiscock, et al., 2010; Jarvis & Wardle, 2006; Kotz & West, 2009). However, rather than being less important in influencing women's lives; gender might disproportionately affect the lives, health and behaviours of low SES women whose lives are shaped by partnership and parenting choices (Graham, 2007). Such social positioning of low SES women means that they are more likely to experience multiple markers of deprivation which could reduce their chances of cessation success. The findings of this research highlight the importance of re-contextualising the debate so that future research does not focus on exploring which sex has better cessation outcomes but rather which factors are responsible for reduced cessation outcomes for both men and women. It would be worthwhile to explore and compare the experiences of women who occupy higher social positions to ascertain whether factors are unique to women as a whole or whether they occur as a consequence of gender and deprivation.

A wealth of research has examined how smokers use tobacco to help them cope with stress and negative affect (Baker, et al., 2004; Kassel, et al., 2003); however, the term 'emotional dependency' has not been widely used within the literature to describe tobacco use. Therefore this tentative definition of 'emotional dependency' is offered. *"Tobacco consumption can be viewed to be part of an emotional dependency whereby smokers use tobacco primarily to regulate their mood or to alleviate their levels of stress or negative affect. Over time, the action of smoking develops into an established coping response that smokers become dependent upon"*. The findings of this thesis

although exploratory suggest that dominent definitions and measures of tobacco dependence such as Fagerstrom Test of Nicotine Dependence (FTND), the Heaviness of Smoking Index, the Nicotine Dependence Syndrome Scale or the Cigarette Dependence Scale may be inadequate at explaining and measuring smoking behaviour in women if they do not take into account aspects of emotional dependency (American Psychiatric Association, 2000; Borland, Yong, O'Connor, Hyland, & Thompson, 2010; Etter, Le Houezec, & Perneger, 2003; Heatherton, Kozlowski, Frecker, & Fagerstrom, 1991; Shiffman & Sayette, 2005).

Theories and measures of tobacco dependence (particularly the FTND) have been criticised for focusing on *"unidimensional physiological responses"* to nicotine whilst neglecting the important role that factors such as social contexts, individual autonomy or motivation might have in influencing tobacco dependence (Richardson, et al., 2007). However, promising measures of tobacco dependence are being developed such as the Hooked on Nicotine Checklist (which focuses on the level of diminished autonomy an individual experiences as a consequence of tobacco use) (Wellman et al., 2005) or the Wisconsin Inventory of Smoking Dependence Motives (which examines different reasons for engaging in smoking behaviour on 13 different scales such as automaticity, positive and negative reinforcement and weight control) (Piper, et al., 2004). However, given the potential influence of sex and gender on tobacco use it is vital that both concepts and measures of tobacco dependence take account of such influences so that the concept of tobacco dependence is adequately understood and moreover, can be treated appropriately (Richardson, et al., 2007).

7.3.2 Does NHS cessation support meet women's needs?

Despite consistent findings that women have lower quit rates when using NHS cessation support (ISD Scotland, 2011; The Information Centre, 2012), no research has examined women's experiences of using NHS stop smoking services. This research gives a unique insight into the factors that are important to women when using cessation support. Furthermore, the research indicates ways that cessation support could be potentially altered to meet women's needs.

Key facets of cessation support valued by women were that cessation support needed to be flexible and accessible. Formats of cessation support such as drop-in clinics or the

ability to contact advisors via telephone or text were deemed particularly important to the women interviewed. Such formats of cessation support were offered by the stop smoking services that women accessed. However, a key finding of this research was that women had a low level of awareness about the cessation support options that were available to them through the NHS. This finding suggests that many women are not making an informed choice about the type of cessation support they use. Therefore, a key area for improvement for NHS stop smoking services would be to increase the awareness that smokers have of the different smoking cessation options available to them. Furthermore, giving women (and smokers) the ability to choose the most appropriate format of cessation support for their needs might be empowering and could increase their engagement with quitting smoking. The NHS constitution aims to allow patients to make an informed choice surrounding their NHS treatment and care (DH, 2010). However, wider research has suggested that patients do not appear to routinely make informed choices about treatment options in other NHS settings (Coulter, 2010). Therefore, this research may reflect a wider need to ensure that patients are given an informed choice about treatment options within the NHS.

Principles of informed choice and information provision may increase autonomy (Williams, et al., 2002). Autonomy supportive smoking cessation interventions have been associated with increased smoking cessation outcomes at 6, 12 and 30 months (Williams, Niemiec, Patrick, Ryan, & Deci, 2009). Other strategies to increase autonomy are to minimize control and acknowledging an individual's perspective (Williams, et al., 2002). Women interviewed as part of the qualitative research identified that being motivated or determined to quit smoking was essential for cessation success. In contrast, women that quit smoking due to perceived pressure to alter their behaviour appeared to have poorer cessation outcomes. Wider research has indicated that smokers that have an increased sense of autonomy have better cessation outcomes compared to smokers who make a quit attempt due to perceived pressure (Curry, et al., 1997; Smit, et al., 2011). SDT (an overview of SDT is given in Chapter 5) posits that autonomy plays a crucial role within motivation (Deci & Ryan, 1985; Deci & Ryan, 2008). Having a greater level of autonomous regulation has been associated with greater feelings of competence (Williams & Deci, 1996; Williams, Freedman, & Deci, 1998) which has also been significantly associated with smoking cessation outcomes

(Williams, et al., 2009). Therefore ensuring that NHS cessation support facilitates autonomy could be a way of improving cessation outcomes.

Much variability existed in terms of women's cessation needs. Some women wanted practical cessation support (such as advice about pharmacotherapy) whereas others wanted more intensive cessation support (to help them deal with the psychological consequences of quitting smoking). The findings of qualitative research showed that a group of women labelled the 'discontented smokers' were most likely to express a need for intensive cessation support. They wanted to stop smoking but felt that they were too dependent upon the behaviour. The previous section suggested that nicotine addiction for women consisted of a physical addiction to nicotine and an emotional dependency with smoking. It is possible that women labelled as discontented smokers within the qualitative investigation may have both a physical and emotional addiction to smoking; which is why they expressed a need for intensive cessation support to help them change their behaviour.

Given this findings; one way of improving cessation support for 'discontented smokers' could be to help them to develop healthier coping strategies to deal with negative affect and stress. It has been argued that cognitive behavioural therapy to alter coping responses to stress has a central role in ensuring that individuals maintain long-term abstinence from tobacco (Marlatt & Donovan, 2005). An online intervention which aimed to assist smokers with planning how they would cope with stressful situations was associated with increased abstinence rates 7 months post intervention (Van Osch, Lechner, Reubsaet, & Wigger, 2008). Other interventions which included a mood management component to assist smokers in coping with negative affect were also associated with increased quit rates at 12 months (Branstrom, Penilla, Perez-Stable, & Munoz, 2010; Van der Meer, Willemsen, Smit, Cuiipers, & Schippers, 2010).

Such findings suggest that there may be possible utility in developing and testing interventions to assist smokers in coping with negative affect and stress as part of standard NHS smoking cessation support. However, a Cochrane systematic review which examined the effectiveness of relapse prevention strategies concluded that interventions which aimed to increase an individual's ability to cope with high risk relapse situations had not been shown to be helpful in assisting smokers in quitting

smoking (Hajek, et al., 2009). The authors of this Cochrane review concluded that the experimental designs used by many studies did not enable small effect sizes to be detected (Hajek, et al., 2009). It is important to note that wider research has found that including relapse prevention strategies in the early stages of behaviour change can undermine attempts to change behaviour (Ashford, Edmunds, & French, 2010). NHS cessation support has a short-term rather than a longer-term focus, and aims to promote cessation rather than to assist with the maintenance of long-term behaviour change. Therefore, it is possible that promoting the use of healthier coping strategies may be more effective for women when they are in the maintenance stage of behaviour change rather than the first phases of quitting smoking (Prochaska & DiClemente, 1983). Moreover, a need may exist for NHS cessation services to tailor support to specifically address women's (and smoker's) needs to help them maintain their abstinence from smoking. To do this services should; seek to engage women in the smoking cessation process, establish the specific needs that women might have and ensure that women receive appropriate support.

A need may also exist to develop an active relapse prevention component within cessation support. Previous relapse prevention interventions have tended to be 'skills based' in focus and have aimed to train smokers to develop better coping strategies in high risk situations. One problem with interventions that aim to improve coping skills is that they assume that the smoker needs to learn to cope better with high risk situations. Such interventions fail to acknowledge that disadvantaged smokers may be experiencing persistent stressors each day; which consequently may be why smoking has become embedded within their daily lives as a way of dealing with stress. Therefore the challenge that many smokers face when trying to quit smoking may be to avoid the stressors they face within their environment. It has been argued that for cessation support programmes to become more effective for the most deprived smokers they must seek to change the living conditions of the most disadvantaged so that they face less 'socioeconomic stress' (Peretti-Watel, Seror, Constance, & Beck, 2009). Such a task of reducing the impact of disadvantage upon the most deprived is a challenging one which requires a co-ordinated and systematic approach by multiple agencies to tackle and reduce inequalities (Marmot, et al., 2010). Smoking cessation support therefore, should sit within a wider policy context which seeks to ameliorate or reduce the impact of

disadvantage upon the most deprived. Increasing education amongst the most deprived and improving the resources and amenities of disadvantaged neighbourhoods could reduce the impact of material deprivation, which might help to increase smoking cessation rates (Ellaway & Macintyre, 2009; Giskes, van Lenthe, Turrell, Brug, & Mackenbach, 2006; Shohaimi et al., 2003; Van Lenthe & Mackenbach, 2006). However, such a task would be beyond the role of NHS cessation support alone and requires a multidisciplinary approach to reduce health inequalities.

7.4 FUTURE RESEARCH DIRECTIONS

All women interviewed reported being emotionally dependent upon smoking to varying degrees. However, further research is needed to adequately define what is meant by the term emotional dependency. A working definition has been offered from this thesis but further research is warranted to determine the caveats that relate to emotional dependency i.e. are smokers emotionally dependent if they use smoking to cope? Or does emotional dependency only exist when smoking is used to cope with negative affect or stress in an attempt to improve mood? Furthermore, some women appeared to be more emotionally dependent than others and therefore, a need exists to develop a way of measuring an individual's level of emotional dependency. The development of such a measure would enable future research to reliably examine the effect that emotional dependency has on smoking cessation outcomes.

The results of the qualitative research suggest that women that used smoking to cope with negative affect experienced difficulty in quitting smoking. However, this research was unable to objectively assess the impact that emotional dependency had on smoking cessation outcomes in women. The secondary data analysis included one measure which attempted to capture emotional attachment with smoking. The measure asked smokers whether they smoked for pleasure, to cope or for equal amounts of both. This variable was not associated with smoking cessation outcomes in women. However, this measure of emotional attachment may not adequately capture the complexities of being emotionally dependent upon cigarettes. Developing a reliable measure of emotional dependency will enable future research to determine the role that it has in smoking cessation outcomes in women.

It was hypothesized based on the findings of this research that emotional dependency could be associated with increased nicotine dependence. Therefore, future research should seek to determine whether such an association exists. The findings of this thesis highlight that an association exists between disadvantage and increased addiction. It is possible that such an association exists between disadvantage and emotional dependency. Lower cessation outcomes are often reported amongst the most deprived smokers and therefore it is possible that being emotionally dependent upon cigarettes is a characteristic of tobacco dependency amongst the most deprived smokers. Therefore, future research should seek to establish whether being emotionally dependent upon cigarettes is unique to women or a characteristic applicable to other smokers.

The findings of this thesis are exploratory in nature and therefore, the importance of being emotionally dependent with smoking remains unclear. However, if future research ascertains that emotional dependency plays a role in cessation outcomes then further research should explore how smoking cessation support could be adapted to help emotionally dependent smokers to quit smoking successfully.

In terms of policy recommendations, the key recommendation for NHS stop smoking services is that cessation support should seek to ensure that all smokers are making an informed choice about their treatment options. Due to the variable nature of women's smoking cessation needs, other improvements should centre on making sure that a range of cessation options are provided so women can pick the option that most suits their cessation needs. Other findings imply that a need to help women develop healthy coping strategies exists, however, this recommendation is tentative and further research is required before changing NHS policy. The qualitative research highlighted that for many women smoking cessation is a recurrent process which they engage in time and time again and therefore it might be helpful to develop a more long-term focus to smoking cessation support. Lastly, it is worth noting that many women interviewed felt stigmatized by their smoking status. Furthermore, many women appeared to internalise responsibility for the outcome of their cessation attempt. There is a danger that women who are unsuccessful in quitting smoking may internalise this as a personal failure. Therefore, cessation support services need to take care to avoid smokers experiencing

feelings of guilt, low mood or stigma which might make them feel marginalised within society.

7.5 FINAL CONCLUSION

The mixed methodology used within the thesis extended current knowledge as it showed that different facets of addiction might be important in maintaining the smoking behaviour of women. Within the quantitative research, addiction was an unexpected predictor of cessation outcomes in women; whereas, in contrast, the qualitative research showed that smoking for women appeared to be part of an emotionally dependency towards cigarettes. This finding contradicted wider research which suggested that addiction is less important to women in determining smoker behaviour and highlighted that women might be more dependent upon smoking as their dependence may contain both physical, psychological and emotional aspects. The research has developed understanding about women's experiences of addiction. However, further research is warranted to ascertain whether such findings are applicable to women within the wider population. The findings of the research are important as understanding women's experiences of smoking could lead to the development of more effective smoking cessation programmes.

The research led to the development of a hypothesis to explain why women using cessation support would have lower cessation outcomes. The hypothesis suggests that increased exposure to multiple markers of disadvantage is associated with increased levels of stress and negative affect amongst women. Such factors may lead to women developing an emotional reliancy towards cigarettes as well as increased levels of addiction which subsequently reduce women's cessation outcomes. Further research is required to confirm or reject this hypothesis but the thesis has identified important avenues for future research. Furthermore as experiencing deprivation appeared to be an important factor in determining cessation success for women. Tobacco control policy should be incorporated into wider social policy in an attempt to reduce the impact that experiencing multiple markers of disadvantage has on women, in an attempt to reduce smoking prevalence and associated health inequalities.

The qualitative research explored women's experiences of smoking cessation and using NHS cessation support and pharmacotherapy. No other research has explored women's

experiences of using NHS cessation support. Therefore the thesis made a unique contribution to knowledge. The research highlighted facets of cessation support that were important to women when quitting smoking such as accessibility and flexibility. A key finding of the thesis was that women had little awareness of available NHS cessation support options and therefore NHS cessation services shoul ensure that smokers make an informed choice when using cessation support. This change to NHS stop smoking services has potential to increase quit rates as it may empower women and increase their autonomy and engagement with quitting smoking.

The research was exploratory in nature and therefore definite recommendations to improve quit rates amongst women are not possible. However, the thesis has increased understanding about women's experiences of addiction and smoking cessation and has highlighted other worthy avenues of research. The knowledge acquired from this research has the potential to improve women's experiences of NHS cessation support in a bid to increase the quit rates of women using cessation services. Further research should seek to determine how existing services could be adapted to increase the quit rates of women in an attempt to reduce the gender inequalities that exist for women when using NHS stop smoking services.

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APPENDIX ONE: STUDY INVITATION LETTERS FOR BATH AND DUDLEY

UNIVERSITY OF BATH

Department of Social and Policy Sciences
Bath BA2 7AY · United Kingdom
Telephone +44(0)1225 388388
Facsimile +44(0)1225 386381

UK Centre for Tobacco Control Studies
A UKCRC Public Health Research Centre of Excellence

BANES Version 1. 19/08/09

Fay Beck,
Department of Social Policy Sciences,
University of Bath,
BATH,
BA2 7AY.

Dear {INSERT NAME},

My name is Fay Beck and I am a PhD student at the University of Bath. I am writing to invite you to take part in a research study looking at women's views on smoking, quitting smoking and the stop smoking services. You have been contacted as you have recently used the stop smoking service and we would like to hear what you think. I have attached an information sheet which gives you more information on the study. If you decide to participate in the study you would receive £10 in high street vouchers. If you would like to participate please detach and complete the reply slip and return it in the stamped addressed envelope provided.

Thank you for taking the time to read this letter,

Best wishes.

Fay Beck

Reply slip

I am interested in taking part in this study.

Name: _____ Work/Home telephone: _____

Mobile Number: _____ Best time to call: _____

UK Centre for
Tobacco Control Studies
A UKCRC Public Health Research Centre of Excellence

NHS
Dudley

Dudley Stop Smoking Service
St John's House
Union Street
Dudley
West Midlands
DY2 8PJ

10 August 2010

INSERT
ADDRESS

Dear (NAME)

We are writing to you to invite you to take part in a research study looking at women's views on smoking, quitting smoking and the stop smoking services. You have been contacted as you have recently used the stop smoking service and we would like to hear what you think. We have attached an information sheet which gives you more information on the study. If you decide to participate in the study you would receive £10 in high street vouchers. If you would like to participate please detach and complete the reply slip and return it to Fay Beck in the stamped addressed envelope provided.

Thank you for taking the time to read this letter,

Yours sincerely

J Parkes

F.P. Beck

Joseph Parkes
Smoking Co-ordinator
Dudley Stop Smoking Service

Fay Beck
Student
Bath University
UK Centre for Tobacco Control Studies

✂ ----------

Reply slip – 1

I am interested in taking part in this study.

Name: ----------

Work/Home Number: ----------

Mobile Number: ----------

Best time to call: ----------

APPENDIX TWO: ADVERTISEMENTS FOR NON-SERVICE USERS

The University of Bath is conducting a study examining female smoker's experiences of quitting smoking. In particular we are looking for smokers who have tried to quit before using various methods including 'cold turkey' or buying nicotine replacement therapy over the counter and are interested in looking at why these methods were chosen over using the stop smoking services. The study will run from May - August 2010.

To be eligible for this study you need to fulfill the following criteria: You must be:

- be female
- be aged over 18 years of age
- not be pregnant
- speak fluent English
- be a regular smoker and smoke on a daily basis
- have made at least one previous quit attempt (which was independent of medical help i.e. doctors, nurses, pharmacists, stop smoking advisors etc)
- be available for up to 2 hours between 9am and 5pm to come to the University of Bath

Procedure

The study involves attending one session and taking part in focus group discussion about quitting smoking. The session lasts approximately between 1 hour and thirty minutes to 2 hours. The data will be kept strictly confidential.

You will be given a £10 voucher as a thank you for your time and expenses.

If you wish to take part or would like further information please contact Fay Beck

feb20@bath.ac.uk

APPENDIX THREE: MATERIALS USED IN THE QUALITATIVE INVESTIGATION

Information sheet for interviews

Information Sheet

Version 1, September 2009.

Women's experiences of smoking cessation and stop smoking services

Hi my name is Fay and I am a student at the University of Bath. I am conducting a research project into women's experiences of stop smoking services. I am interested in finding out about your feelings about smoking and your experiences of quitting smoking. I am also interested in how well the stop smoking services meet your needs and how they could be improved.

Fay Beck, Phone: 01225 384514

Email: feb20@bath.ac.uk

Why have I been given this information?

You are being invited to take part in a research study. In order to help you decide whether you would like to take part, I will explain what you would be expected to do if you decided to take part. Please take time to read this information sheet carefully and feel free to talk to others about your decision to participate.

What is the purpose of this study?

This research will look into your feelings about quitting smoking, what smoking

means to you. It will also focus on your experiences of quitting smoking, your thoughts on using nicotine patches, gum etc (NRT) or medications such as Champix. The study will also look at your opinions of the stop smoking services and how you feel they could be improved to meet your needs. It is hoped that the results of this study will help to improve the stop smoking services.

Do I have to take part?

Taking part in the study is voluntary. If you do decide to take part you will be asked to sign a consent form showing that you have agreed to take part. However, you are free to withdraw from the study at any point and you do not have to provide a reason.

What will happen to me if I take part?

If you decide to participate in the study you will be invited for an interview. The interview location will vary and can be arranged at a place that is convenient for you. The interview will last for no more than 1 and a half hours in total. You will be asked a series of questions about your views on smoking and quitting smoking and the stop smoking services. Try to answer questions as honestly as possible. All of your answers will be confidential and not shared with anyone else. If you feel at any point during the interview you are unable to answer any of the questions that is fine. The interview will be tape recorded. The reason for this is so that I will be able to type up the interviews so I can read over your responses at a later date. However, all information that you give me will be anonymous and therefore you will not be identifiable from your responses. You will also be given a £10 voucher in exchange for your time.

What are the disadvantages or advantages of taking part?

There are no risks or benefits to taking part. However, by taking part you will be helping researchers learn more about smoking and what it means to women. You will also be helping us to find ways in improving the stop smoking services.

Who will see my responses?

All information will be treated anonymously and confidentially, in line with the

Data Protection Act (1998). Your identity will not be disclosed in any reports or publications that may arise from the study. The interview tape will be kept securely and only the researcher will have access to it. All information supplied will be kept anonymously.

What will happen to the results of the study?

The results may be published in academic journals. In addition, the findings will be used in the researcher's PhD thesis. However, as all data is anonymous then it will not be possible to identify you from any publications or reports that are written.

Who is organising the research and who has reviewed it?

Research has been funded by the UK Centre of Tobacco Control Studies (www.ukctcs.org) and has been subject to ethical approval from the NHS ethics committee

Thank you for taking the time to read this information. If you have any further questions please feel free to contact me on 01225 384514 or feb20@bath.ac.uk or Prof. Linda Bauld either via email L.Bauld@bath.ac.uk or phone 01225 383160

Thank you for your time and interest in the study,

Yours sincerely,

Fay Beck

Information Sheet

Version 1, September 2009.

Women's experiences of smoking cessation and stop smoking services

Hi my name is Fay and I am a student at the University of Bath. I am conducting a research project into women's experiences of stop smoking services. I am interested in finding out about your feelings about smoking and your experiences of quitting smoking. I am also interested in the barriers that people face when using a stop smoking services and how they could be made more accessible.

Fay Beck, Phone: 01225 38 4514

Email: feb20@bath.ac.uk

Why have I been given this information?

You are being invited to take part in a research study. In order to help you decide whether you would like to take part, I will explain what you would be expected to do if you decided to take part. Please take time to read this information sheet carefully and feel free to talk to others about your decision to participate.

What is the purpose of this study?

This research will look into your feelings about quitting smoking, what smoking means to you. It will also focus on your experiences of quitting smoking. The study will also look at your opinions of the stop smoking services and the

barriers that you may face when considering using a service The study will also look at how the stop smoking services could be improved to make them more accessible. It is hoped that the results of this study will help to improve the stop smoking services.

Do I have to take part?

Taking part in the study is voluntary. If you do decide to take part you will be asked to sign a consent form showing that you have agreed to take part. However, you are free to withdraw from the study at any point and you do not have to provide a reason.

What will happen to me if I take part?

If you decide to participate in the study you will be invited for a focus group. In the focus group there will be between 5 – 10 other people. The location of the focus group will vary and attempts will be made to arrange a place that is most convenient for everyone. The focus group will last between no longer than 2 hours. You will be asked a series of questions about your views on smoking and quitting smoking and the stop smoking services and the barriers that you face. You will then discuss everyone's answers as a group. Try to answer questions as honestly as possible. All of your answers will be confidential and not shared with anyone else. If you feel at any point during the focus group you are unable to answer any of the questions that is fine. The focus group will be tape recorded. The reason for this is so that I will be able to type up the focus group so I can read over your responses at a later date. However, all information that you give will be anonymous and therefore you will not be identifiable from your responses. You will also be given a £15 voucher in exchange for your time.

What are the disadvantages or advantages of taking part?

There are no risks or benefits to taking part. However, by taking part you will be helping researchers learn more about the barriers women face when quitting smoking and how the stop smoking services can be made more accessible.

Who will see my responses?

All information will be treated anonymously and confidentially, in line with the Data Protection Act (1998). Your identity will not be disclosed in any reports or publications that may arise from the study. The interview tape will be kept securely and only the researcher will have access to it. All information supplied will be kept anonymously.

What will happen to the results of the study?

The results may be published in academic journals. In addition, the findings will be used in the researcher's PhD thesis. However, as all data is anonymous then it will not be possible to identify you from any publications or reports that are written.

Who is organising the research and who has reviewed it?

Research has been funded by the UK Centre of Tobacco Control Studies (www.ukctcs.org) and has been subject to ethical approval from the NHS ethics committee

Thank you for taking the time to read this information. If you have any further questions please feel free to contact me on 01225 384514 or feb20@bath.ac.uk or Prof. Linda Bauld either via email L.Bauld@bath.ac.uk or phone 01225 383160

Thank you for your time and interest in the study,

Yours sincerely,

Fay Beck

Consent form

UK Centre for
Tobacco Control Studies
A UKCRC Public Health Research Centre of Excellence

UNIVERSITY OF BATH

Department of Social and Policy Sciences
Bath BA2 7AY · United Kingdom
Telephone +44(0)1225 388388
Facsimile +44(0)1225 386381

Version 2, 11/02/2010

Consent Form

Title of Project: Women's experiences of smoking cessation

Researcher: Fay Beck

I have read and understand the information sheet dated ..... (Version 1, September 2009)	☐
I have had the opportunity to consider the information, the chance to ask questions and have received satisfactory answers.	☐
I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.	☐
I understand that the information I provide will be confidential and that my name will not be in any outputs from the research.	☐
I understand that only the researcher will have access to my data, that this data will be securely stored and that the data will be destroyed at the end of the research.	☐
I agree that my interview/focus group with a researcher will be recorded on tape or digitally. The recording will be securely stored.	☐
I have received a £10 voucher for my time.	☐
I agree to take part in the research.	☐

Name of Participant	Date	Signature
_____	_____	_____
Name of Person taking consent	Date	Signature

If you require further information about this study, please contact:
Fay Beck – feb20@bath.ac.uk or phone 01225 384514

Prof. Linda Bauld – L.Bauld@bath.ac.uk or phone 01225 383160

Questionnaire for interviews

Version 2 03/08/09
Questionnaire

Date of interview: _____

Name		**Mr/Mrs/Miss/Ms/Other (please circle)**	
Address			
Postcode		**Contact phone number:**	
Gender	**Male/Female**	**Best time to call:**	
Date of Birth		**Pregnant**	**Yes/No**
Year left education			

Are you in paid employment?

If yes please state occupation _____

If you answered no are you:

unemployed? ☐

Full-time student? ☐

Sick/disabled and unable to work? ☐

Retired? ☐

Homemaker/ full time parent/carer? ☐

I would describe my ethnic origin as:

White

White British ☐ **Irish** ☐ **Any other White background** ☐

Dual Heritage

White and Black Caribbean ☐ **White and Black African** ☐ **White and Asian** ☐

Any other Mixed background ☐

Asian or Asian British

Indian☐ Pakistani ☐ Bangladeshi ☐ Any other Asian background ☐

Black or Black British

Caribbean ☐ African ☐ Any other Black background ☐

Other Ethnic Groups

Chinese ☐ Any other ethnic group (please state) _____

Smoking History

Smoker	**Yes/No**	**Quitting at the moment?**	**Yes/No**
No. of prior quit attempts?		**Date of last quit attempt**	
Other relevant information			

On average how many cigarettes do you/did you smoke per day?

10 or less ☐

11 – 20 ☐

21 – 30 ☐

31 or more ☐

How soon after you wake up do you/did you smoke your first cigarette?

Within 5 minutes ☐

Longer than 5 minutes but within half an hour ☐

Longer than half an hour but within 1 hour ☐

Longer than 1 hour ☐

Questionnaire for focus group

Version 1 26/05/10
Questionnaire Focus Group

Name		**Mr/Mrs/Miss/Ms/Other (please circle)**	
Address			
Postcode		**Contact phone number:**	
Gender	**Male/Female**	**Best time to call:**	
Date of Birth		**Pregnant**	**Yes/No**
Year left education			

Are you in paid employment?
If yes please state occupation _____

If you answered no are you:
unemployed? ☐
Full-time student? ☐
Sick/disabled and unable to work? ☐
Retired? ☐
Homemaker/ full time parent/carer? ☐

I would describe my ethnic origin as:
White
White British ☐ **Irish** ☐ **Any other White background** ☐

Dual Heritage
White and Black Caribbean ☐ **White and Black African** ☐ **White and Asian** ☐ **Any other Mixed background** ☐

Asian or Asian British
Indian ☐ **Pakistani** ☐ **Bangladeshi** ☐ **Any other Asian background** ☐

Black or Black British
Caribbean ☐ **African** ☐ **Any other Black background** ☐

Other Ethnic Groups
Chinese ☐ **Any other ethnic group (please state)** _____

Smoking Behaviour
On average how many cigarettes do you smoke per day?
10 or less ☐
11 – 20 ☐
21 – 30 ☐
31 or more ☐

How soon after you wake up do you smoke your first cigarette?
Within 5 minutes ☐
Longer than 5 minutes but within half an hour ☐
Longer than half an hour but within 1 hour ☐
Longer than 1 hour ☐

No. of prior quit attempts?		**Date of last quit attempt**	
Length of longest quit attempt:			
Previous methods used to try and quit smoking (ie. willpower alone, NRT, other medication, GP, NHS stop smoking service, NHS smoking helpline, etc):			

Availability for the interview:
Efforts will be made to choose an interview date that is convenient for everyone are there any dates or times that would be impossible to make ……..
Are you available ….
During the weekday ☐ **Evenings (Monday to Friday before 8pm)** ☐

Would you be able to attend an interview if it was located at …
The University of Bath ☐ a location in town ☐ could attend either location ☐

INTERVIEW SCHEDULE – SERVICE USERS
Version 3 11/02/10

At the beginning of the interview the purpose of the research will be outlined. Participants will be given the opportunity to ask questions and then they will be asked to sign the consent form. Once consent has been obtained the interview will begin. Below are a list of questions that will be asked during the interview. The numbered questions are the main questions and the bullet points are potential prompts.

Life history
Can you give me an example of your typical day?
What do you do?
Who do you live with?
Do you have children?
What are your interests or hobbies?

[N.B. The demographic questionnaire will also be completed within this section].

Your Smoking
Can you tell me about your smoking history?
How long have you smoked for?
Why did you start smoking (the circumstances in which you had your first cigarette, continuation of the behaviour etc)?
How many cigarettes do you/did you smoke in a day?
How long would you wait before smoking the first cigarette of the day?
Do you still smoke?

Can you tell me how smoking fits/fitted into your typical day?
Are there certain times of day when you were more likely to smoke, what are they and why do you think that is?
Are there certain situations in which you were more likely to smoke, what are they and why do you think that is?
Are there certain times of the month/week in which you were more likely to smoke?

Would you classify the cigarettes you smoked as being part of a habit or an addiction? Which cigarettes are habit.which are addiction? (Are there differences between cigarettes smoked at different times of day and why?)

What benefits or disadvantages did smoking have for you?

How do you feel about cigarettes?
What did they mean to you? Has this changed?

Past Quit Attempts
Outline here that the interview will now focus on previous quit attempts.
Have you tried to quit smoking before?
What happened?
How many times?

How long did these quit smoking attempts last?
Why did you go back to smoking?

What made you want to quit smoking?
What were the main reasons for wanting to quit?
Did you have any concerns about quitting smoking?

What was your experience of quitting smoking?
Did you find it difficult?
What were the withdrawal symptoms like?
Did you notice any positive changes?
How did you cope with cravings (tips and tactics)?
Some women notice that their time of the month can affected their quit attempts or cravings? Did you find this?

Did you use anything to support you (e.g. NRT, Champix, stop smoking counselling)?
What was your experience of NRT/Champix?
What did you think about NRT/Champix before you used it? Did your beliefs change after use?
Did you get support from a counsellor or adviser?
How did these methods compare to previous attempts? Was anything better or worse?
What helped you in your quit attempts?
What was bad in your quit attempts?
Could anything have been improved?

Current Quit Attempts
Can you talk me through your current quit attempt and use of the stop smoking service?
When did you decide to quit?
Who did you talk to about quitting (apart from family or friends)
When did you contact the stop smoking services?

Why did you decide to contact the stop smoking service?
What happened?
What information did they give you?
Were you given the option of joining a group or having one to one support?
Would you prefer group or one to one support?

After you made the first contact, what happened? Did you attend a group or one to one session and for how long?

Did you set a quit date?
Did you stick to it? How did it go? Did you have any problems?
Did you do anything to prepare for your quit date?
How confident were you in your quit attempt?
Are you getting withdrawal symptoms/cravings and how are you coping with those?

Did the stop smoking service provide you with access to stop smoking medication?
What products/mode of support did you use/are you using?
How are you finding them?
Are there any problems?
Could anything be improved?

How did the stop smoking service help you with your quit attempt?
Could the stop smoking service do anything to improve?
What do you think of a) the location, b)availability, c)level of support, d) the information they give you.

Norms
What do you family/friends think about you quitting smoking?
Do they smoke?
Do they have any opinions about the stop smoking service?
Do they have any opinions about NRT/Champix?

How do you feel about staying smoke free in the future?
how do you feel about giving up cigarettes?
how do you feel about being a non-smoker?
after your experience what tips or advice would you give someone in a similar position?

Focus Group Discussion Outline: Non-Service Users Version 1, 3rd August 2009
Aim – to explore the barriers to accessing the stop smoking services.

Introductions

1. Get everyone to introduce themselves and talk a little bit about their experiences i.e. who they are, when they started smoking, how many cigarettes they smoke per day and if they are currently smoking, their experiences of quitting smoking (number of prior quit attempts and longest they have lasted without smoking)

2. What are the different methods that people have used to quit smoking before? (What has worked well and why? What hasn't worked so well and why?) Prompt what products have people used?

3. What kind of things have you all done to help you with your previous quit attempts? (examples planning. setting a quit date, getting a friend to help you)

4. What barriers (or concerns) did you all face when quitting smoking?

5. Thinking back to when you attempted to quit smoking before, what kind of factors have caused you to relapse?

Perceptions of the service

6. What do people know about the stop smoking services? (Prompt what are your opinions of the stop smoking service?)

7. When you decided to quit did any of you consider using the stop smoking services? Prompt why did you decide not to use the stop smoking services?

8. Earlier you all outlined barriers and concerns that you faced when attempting to quit smoking what could the stop smoking services do to help you overcome these barriers and worries?

9. How do you think the stop smoking services could be improved?

10. What factors would influence your decision to contact the stop smoking service to help you to quit smoking?

11. Do you perceive there to be any advantages or disadvantages of using a stop smoking service to help you quit?

12. Ideally what kind of things would you expect to get from using the stop smoking service?

APPENDIX FOUR: DIFFERENCES BETWEEN THE NOTTINGHAM, NORTH CUMBRIA AND GLASGOW SAMPLES

Table 1: Differences in demographics between clients in Nottingham, North Cumbria and Glasgow cessation services

	Notts/NC	Glasgow	Notts/NC	Glasgow Group	Notts/NC	Glasgow 1-1
Mean age	45.62 (14.721)	45.95 (13.892)	45.62 (14.721)	49.81 (12.761)	45.62 (13.892)	44.37 (14.031)
T-test	$t(3460) = 0.668$, $p = .504$		$t(2471) = -5.357$, $p < .001$		$t(3054) = -2.232$, $p = .026$	
Ethnicity						
White British	94.2% (n = 1948)	83.3% (n = 1162)	94.2% (n = 1948)	94.3% (n = 383)	94.2% (n = 1948)	78.8% (n = 779)
Other	5.8% (n = 121)	16.7% (n = 233)	5.8% (n = 121)	5.7% (n = 23)	5.8% (n = 121)	21.2% (n = 210)
Chi Square	$\chi^2(1) = 106.992$ $p < .001$		$\chi^2(1) = 0.021$ $p = .885$		$\chi^2(1) = 164.095$ $p < .001$	
Deprivation Quintile						
20% most deprived quintiles	45.4% (n = 939)	53.5% (n = 747)	45.4% (n = 939)	45.6% (n = 185)	45.4% (n = 939)	56.8% (n = 562)
Other quintiles	54.6% (n = 1130)	46.5% (n = 648)	54.6% (n = 1130)	54.4% (n = 221)	54.6% (n = 1130)	43.2% (n = 427)
Chi Square	$\chi^2(1) = 22.230$ $p < .001$		$\chi^2(1) = 0.005$ $p = .946$		$\chi^2(1) = 35.046$ $p < .001$	
40% most deprived quintiles	69.6% (n = 1440)	71.3% (n = 994)	69.6% (n = 1440)	62.1% (n = 252)	69.6% (n = 1440)	75.0% (n = 742)
Other quintiles	30.4% (n = 629)	28.7% (n = 401)	30.4% (n = 629)	37.9% (n = 154)	30.4% (n = 629)	25.0% (n = 247)
Chi Square	$\chi^2(1) = 1.093$ $p = .296$		$\chi^2(1) = 8.898$ $p = .003$		$\chi^2(1) = 9.640$ $p = .002$	

Table 2: Differences in socioeconomic characteristics between the clients of the Nottingham, North Cumbria and Glasgow cessation services

	Notts/NC	**Glasgow**	**Notts/NC**	**Glasgow group**	**Notts/NC**	**Glasgow 1-1**
Receives free prescriptions						
Pay	54.1% (n = 885)	43.5% (n = 491)	54.1% (n = 885)	59.5% (n = 185)	54.1% (n = 885)	37.4% (n = 306)
Free	45.9% (n = 751)	56.5% (n = 638)	45.9% (n = 751)	40.5% (n = 126)	45.9% (n = 751)	62.6% (n = 512)
Chi Square	$\chi^2(1) = 30.055$ $p < .001$		$\chi^2(1) = 3.067$ $p = .080$		$\chi^2(1) = 60.793$ $p < .001$	
Housing Tenure						
Rents	41.9% (n = 826)	51.3% (n = 714)	41.9% (n = 826)	37.8% (n = 153)	41.9% (n = 826)	56.8% (n = 561)
Other	58.1% (n = 1145)	48.7% (n = 678)	58.1% (n = 1145)	62.2% (n = 252)	58.1% (n = 1145)	43.2% (n = 426)
Chi Square	$\chi^2(1) = 28.950$ $p < .001$		$\chi^2(1) = 2.365$ $p = .124$		$\chi^2(1) = 58.876$ $p < .001$	
Age left school						
At 15	39.8% (n = 788)	34.7% (n = 483)	39.8% (n = 788)	39.4% (n = 159)	39.8% (n = 788)	32.9% (n = 324)
16 or above	60.2% (n = 1193)	65.3% (n = 907)	60.2% (n = 1193)	60.6% (n = 245)	60.2% (n = 1193)	67.1% (n = 662)
Chi Square	$\chi^2(1) = 8.798$ $p = .003$		$\chi^2(1) = 0.025$ $p = .875$		$\chi^2(1) = 13.445$ $p < .001$	
Employment Status						
Employed/Studying/Caring	80.1% (n = 1590)	72.5% (n = 963)	80.1% (n = 1590)	83.4% (n = 337)	80.1% (n = 1590)	67.7% (n = 626)
Unemployed/Sick/Disabled	19.9% (n = 395)	27.5% (n = 366)	19.9% (n = 395)	16.6% (n = 67)	19.9% (n = 395)	32.3% (n = 299)
Chi Square	$\chi^2(1) = 26.267$ $p < .001$		$\chi^2(1) = 2.365$ $p = .124$		$\chi^2(1) = 55.637$ $p < .001$	

Table 3: Differences in household circumstances between clients of the Nottingham, North Cumbria and Glasgow cessation services

	Notts/NC	**Glasgow**	**Notts/NC**	**Glasgow Group**	**Notts/NC**	**Glasgow 1-1**
Single Parent						
Yes	6.8% (n = 135)	9.5% (n = 132)	6.8% (n = 135)	5.7% (n = 23)	6.8% (n = 133)	11.1% (n = 109)
No	93.2% (n = 1848)	90.5% (n = 1252)	93.2% (n = 1848)	94.3% (n = 380)	93.2% (n = 1848)	88.9% (n = 872)
Chi Square	$\chi^2(1) = 8.319$ $p = .004$		$\chi^2(1) = 0.656$ $p = .418$		$\chi^2(1) = 16.088$ $p < .001$	
Lives with Spouse/Partner						
Yes	62.5% (n = 1260)	49.9% (n = 693)	62.5% (n = 1260)	52.3% (n = 212)	62.5% (n = 1260)	48.8% (n = 481)
No	37.5% (n = 757)	50.1% (n = 693)	37.5% (n = 757)	47.7% (n = 193)	37.5% (n = 757)	51.2% (n = 504)
Chi Square	$\chi^2(1) = 53.513$ $p < .001$		$\chi^2(1) = 14.499$ $p < .001$		$\chi^2(1) = 50.518$ $p < .001$	
Smokers in the house						
Yes	40.5% (n = 823)	43.4% (n = 600)	40.5% (n = 823)	42.2% (n = 167)	40.5% (n = 823)	43.9% (n = 433)
No	59.5% (n = 1207)	56.5% (n = 782)	59.5% (n = 1207)	57.8% (n = 229)	59.5% (n = 1207)	56.1% (n = 553)
Chi square	$\chi^2(1) = 2.792$ $p = .095$		$\chi^2(1) = 0.364$ $p = .546$		$\chi^2(1) = 3.107$ $p = .078$	
Number of adults in a house	2.01 (0.833)	1.97 (1.021)	2.01 (0.833)	2.04 (1.140)	2.01 (0.833)	1.94 (0.967)
Mann Whitney	$p = .002$		$p = .369$		$p < .001$	
Number of children in a household	0.66 (1.041)	0.56 (1.091)	0.66 (1.041)	0.44 (1.217)	0.66 (1.041)	0.62 (1.029)
Mann Whitney	$p = .005$		$p < .001$		$p = 647$	

Table 4: Differences in measures of addiction between clients of the Nottingham, North Cumbria and Glasgow cessation services

	Notts/NC	Glasgow	Notts/NC	Glasgow Group	Notts/NC	Glasgow 1-1
Time to first cigarette						
Under 5 (6) minutes	34.6% (n = 710)	55.8% (n = 769)	34.6% (n = 710)	52.9% (n = 210)	34.6% (n = 710)	57.0% (n = 559)
Between 5 (6) and 29 (30) minutes	47.9% (n = 983)	29.6% (n = 407)	47.9% (n = 983)	34.3% (n = 136)	47.8% (n = 983)	27.7% (n = 271)
Over 30 (31) minutes	17.5% (n = 359)	14.6% (n = 201)	17.5% (n = 359)	12.8% (n = 51)	17.5% (n = 359)	15.3% (n = 150)
Chi Square	$\chi^2(2) = 158.903$ $p < .001$		$\chi^2(2) = 47.496$ $p < .001$		$\chi^2(2) = 147.462$ $p < .001$	
Number of cigarettes						
10 or less	12.6% (n = 253)	13.0% (n = 181)	12.6% (n = 253)	11.7% (n = 47)	12.8% (n = 253)	13.6% (n = 134)
11-20	46.2% (n = 927)	46.4% (n = 644)	46.2% (n = 927)	46.6% (n = 187)	46.2% (n = 927)	46.3% (n = 457)
21+	41.2% (n = 827)	40.6% (n = 563)	41.2% (n = 827)	41.6% (n = 167)	41.2% (n = 827)	40.1% (n = 396)
Chi Square	$\chi^2(2) = 0.212$ $p = .899$		$\chi^2(2) = 0.240$ $p = .887$		$\chi^2(2) = 0.674$ $p = .714$	
Ease of going 24 hrs without smoking						
Ease	12.9% (n = 262)	12.2% (n = 167)	12.9% (n = 262)	12.3% (n = 49)	12.2% (n = 262)	12.2% (n = 118)
Difficult	87.1% (n = 1775)	87.8% (n = 1775)	87.1% (n = 1775)	87.7% (n = 351)	87.1% (n = 1775)	87.8% (n = 849)
Chi Square	$\chi^2(1) = 0.309$ $p = .578$		$\chi^2(1) = 0.113$ $p = .737$		$\chi^2(1) = 0.258$ $p = .611$	
Reason for smoking						
Coping	20.9% (n = 394)	20.3% (n = 279)	20.9% (n = 394)	16.9% (n = 68)	20.9% (n = 394)	21.7% (n = 211)
Other	79.1% (n = 1495)	79.7% (n = 1096)	79.1% (n = 1495)	83.1% (n = 335)	79.1% (n = 1495)	78.3% (n = 761)
Chi Square	$\chi^2(1) = 0.159$ $p = .693$		$\chi^2(1) = 3.276$ $p = .070$		$\chi^2(1) = 0.278$ $p = .598$	

Table 5: Differences in interpersonal factors between clients of the Nottingham, North Cumbria and Glasgow cessation services

	Notts/NC	**Glasgow**	**Notts/NC**	**Glasgow Group**	**Notts/NC**	**Glasgow 1-1**
Number of quit attempts						
0-1	85.6% (n = 1766)	73.7% (n = 1004)	85.6% (n = 1766)	62.8% (n = 250)	85.6% (n = 1766)	78.1% (n = 754)
2+	14.4% (n = 298)	26.3% (n = 359)	14.4% (n = 298)	37.2% (n = 148)	14.4% (n = 298)	21.9% (n = 211)
Chi Square	$\chi^2(1) = 75.031$ $p < .001$		$\chi^2(1) = 116.396$ $p < .001$		$\chi^2(1) = 25.947$ $p < .001$	
Self-reported health						
Good	67.2% (n = 1350)	73.6% (n = 1019)	67.2% (n = 1350)	70.8% (n = 281)	67.2% (n = 1350)	74.7% (n = 738)
Bad	32.8% (n = 660)	26.4% (n = 366)	32.8% (n = 660)	29.2% (n = 116)	32.8% (n = 660)	25.3% (n = 250)
Chi Square	$\chi^2(1) = 15.976$ $p < .001$		$\chi^2(1) = 1.958$ $p = .159$		$\chi^2(1) = 17.777$ $p < .001$	
Determination to quit						
Extremely determined	37.2% (n = 747)	35.8% (n = 499)	37.2% (n = 747)	37.7% (n = 153)	37.2% (n = 747)	35.1% (n = 346)
Other	62.8% (n = 1261)	64.2% (n = 894)	62.8% (n = 1261)	62.3% (n = 253)	62.8% (n = 1261)	64.9% (n = 641)
Chi Square	$\chi^2(1) = 0.674$ $p = .412$		$\chi^2(1) = 0.034$ $p = .854$		$\chi^2(1) = 1.314$ $p = .252$	
Support to quit smoking						
Yes	91.6% (n = 1893)	78.6% (n = 1093)	91.6% (n = 1893)	85.0% (n = 345)	91.6% (n = 1893)	75.9% (n = 750)
No	8.4% (n = 173)	21.4% (n = 299)	8.4% (n = 173)	15.0% (n = 61)	8.4% (n = 173)	24.1% (n = 238)
Chi Square	$\chi^2(1) = 120.797$ $p < .001$		$\chi^2(1) = 17.515$ $p < .001$		$\chi^2(1) = 141.732$ $p < .001$	
Relationship status & support						
In a relationship and supported	60.1% (n = 1203)	43.9% (n = 611)	60.1% (n = 1203)	48.9% (n = 198)	60.1% (n = 1203)	41.9% (n = 413)
Single and supported	31.4% (n = 633)	34.6% (n =481)	31.4% (n = 633)	36.0% (n =146)	31.4% (n = 633)	34.0% (n = 335)
Unsupported	8.6% (n = 173)	21.5% (n = 299)	8.6% (n = 173)	15.1% (n = 61)	8.6% (n = 173)	24.1% (n = 238)
Chi Square	$\chi^2(1) = 142.230$ $p < .001$		$\chi^2(1) = 24.306$ $p < .001$		$\chi^2(1) = 159.349$ $p < .001$	

Table 6: Differences in service use characteristics between clients of the Nottingham, North Cumbria and Glasgow cessation services

	Notts/NC	Glasgow	Notts/NC	Glasgow Group	Notts/NC	Glasgow 1-1
Weeks of service use						
0-4	45.0% (n = 931)	47.8% (n = 667)	45.0% (n = 931)	26.6% (n = 108)	45.0% (n = 931)	56.5% (n = 559)
5-6	26.1% (n = 539)	12.3% (n = 172)	26.1% (n = 539)	16.0% (n = 65)	26.1% (n = 539)	10.8% (n = 107)
7+	29.0% (n = 599)	39.9% (n = 556)	29.0% (n = 599)	57.4% (n = 233)	29.0% (n = 599)	32.7% (n = 323)
Chi Square	$\chi^2(2) = 107.582$ $p < .001$		$\chi^2(2) = 123.036$ $p < .001$		$\chi^2(2) = 94.784$ $p < .001$	
Weeks of pharm use						
0-4	58.1% (n = 1202)	55.1% (n = 769)	58.1% (n = 1202)	51.2% (n = 208)	58.1% (n = 1202)	56.7% (n = 561)
5-6	17.8% (n = 369)	18.6% (n = 260)	17.8% (n = 369)	37.4% (n = 152)	17.8% (n = 369)	10.9% (n = 108)
7+	24.1% (n = 498)	26.2% (n = 366)	24.1% (n = 498)	11.3% (n = 46)	24.1% (n = 498)	32.4% (n = 320)
Chi Square	$\chi^2(2) = 3.157$ $p = .206$		$\chi^2(2) = 89.830$ $p < .001$		$\chi^2(2) = 37.905$ $p < .001$	
Type of pharm used						
None	2.4% (n = 47)	0.9% (n = 12)	2.4% (n = 47)	2.2% (n = 9)	2.4% (n = 47)	0.3% (n = 3)
NRT	78.6% (n = 1568)	94.2% (n = 1314)	78.6% (n = 1568)	81.0% (n = 329)	78.6% (n = 1568)	99.6% (n = 985)
Zyban/Champix	19.1% (n = 381)	4.9% (n = 69)	19.1% (n = 381)	16.7% (n = 68)	19.1% (n = 381)	0.1% (n = 1)
Chi Square	$\chi^2(2) = 157.911$ $p < .001$		$\chi^2(2) = 1.277$ $p = .528$		$\chi^2(2) = 236.525$ $p < .001$	
Referral source						
Self	52.4% (n = 1077)	64.5% (n = 880)	52.4% (n = 1077)	39.1% (n = 147)	52.4% (n = 1077)	74.1% (n = 733)
GP/Other	47.6% (n = 980)	35.5% (n = 485)	47.6% (n = 980)	60.9% (n = 229)	47.7% (n = 980)	25.9% (n = 256)
Chi Square	$\chi^2(1) = 49.157$ $p < .001$		$\chi^2(1) = 22.365$ $p < .001$		$\chi^2(1) = 131.123$ $p < .001$	
Quit CO						
4 week quit	54.6% (n = 1129)	24.9% (n = 347)	54.6% (n = 1129)	35.7% (n = 145)	54.6%(n = 1129)	20.4%(n = 202)
Smokes/Lost to follow up	45.4% (n = 940)	75.1% (n = 1048)	45.4% (n = 940)	64.3% (n = 261)	45.4% (n = 940)	79.6% (n = 787)
Chi Square	$\chi^2(1) = 300.410$ $p < .001$		$\chi^2(1) = 48.297$ $p < .001$		$\chi^2(1) = 317.337$ $p < .001$	
52 week quit	14.6% (n = 303)	4.3% (n = 60)	14.6% (n = 303)	6.4% (n = 26)	14.6% (n = 303)	3.4% (n = 34)
Smokes/Lost to follow up	85.4% (n = 1766)	95.7% (n = 1335)	85.4% (n = 1766)	93.6% (n = 380)	85.4% (n = 1766)	96.6% (n = 955)
Chi Square	$\chi^2(1) = 95.029$ $p < .001$		$\chi^2(1) = 19.988$ $p < .001$		$\chi^2(1) = 84.706$ $p < .001$	

Table 7: Differences in demographics between clients of the North Cumbria and Nottingham cessation services

	Overall		Female		Male	
	Nottingham	**North Cumbria**	**Nottingham**	**North Cumbria**	**Nottingham**	**North Cumbria**
Mean age	44.29 (14.732)	46.63 (14.639)	43.58 (14.449)	45.71 (15.114)	45.28 (15.074)	47.76 (13.958)
T-test	*t*(1912.063) = 3.572 *p* <.001		*t*(1125.113) = 2.453, *p* = .014		*t*(768.501) = 2.515, *p* = .012	
Ethnicity						
White British	88.0% (n = 785)	98.8% (n = 1163)	90.3% (n = 466)	98.8% (n = 643)	84.8% (n = 319)	98.9% (n = 520)
Other	12.0% (n = 107)	1.2% (n = 14)	9.7% (n = 50)	1.2% (n = 8)	15.2% (n = 57)	1.1% (n = 6)
Chi Square	$\chi^2(1) = 107.612$ *p* < .001		$\chi^2(1) = 43.630$ *p* <.001		$\chi^2(1) = 66.329$ *p* < .001	
Deprivation Quintile						
20% most deprived quintiles	51.2% (n = 457)	41.0% (n =482)	51.2% (n =264)	46.1% (n = 300)	51.3% (n = 193)	34.6% (n =182)
Other quintiles	48.8% (n = 435)	59.0% (n = 695)	48.8% (n =252)	53.9% (n = 351)	48.7% (n = 183)	65.4% (n = 344)
Chi Square	$\chi^2(1) = 21.641$ *p* < .001		$\chi^2(1) = 2.974$ *p* = .085		$\chi^2(1) = 25.263$ *p* <.001	
40% most deprived quintiles	72.4% (n = 646)	67.5% (n = 794)	73.4% (n = 379)	71.6% (n = 466)	71.0% (n = 267)	62.4% (n = 328)
Other quintiles	27.6% (n = 246)	32.5% (n = 383)	26.6% (n = 137)	28.4% (n = 185)	29.0% (n = `109)	37.6% (n = 198)
Chi Square	$\chi^2(1) = 5.904$ *p* = .015		$\chi^2(1) = 0.502$ *p* = .478		$\chi^2(1) = 7.313$ *p* = .007	

Table 8: Differences in measures of socioeconomic status between clients of the North Cumbria and Nottingham cessation services

	Overall		Female		Male	
	Nottingham	**North Cumbria**	**Nottingham**	**North Cumbria**	**Nottingham**	**North Cumbria**
Receives free prescriptions						
Pay	43.4% (n = 320)	62.9% (n = 565)	37.7% (n = 165)	55.3% (n = 282)	51.7% (n = 155)	72.9% (n = 283)
Free	56.6% (n = 418)	37.1% (n = 333)	62.3% (n = 273)	44.7% (n = 228)	48.3% (n = 145)	27.1% (n = 105)
Chi Square	$\chi^2(1) = 62.394$ *p <.001*		$\chi^2(1) = 29.367$ *p < .001*		$\chi^2(1) = 33.092$ *p < .001*	
Housing Tenure						
Rents	48.4% (n = 400)	37.2% (n = 426)	50.3% (n = 244)	41.2% (n = 262)	45.6% (n = 156)	32.3% (n = 164)
Other	51.6% (n = 427)	62.8% (n = 718)	49.7% (n = 241)	58.8% (n = 374)	54.4% (n = 186)	67.7% (n = 344)
Chi Square	$\chi^2(1) = 24.424$ *p < .001*		$\chi^2(1) = 9.231$ *p =.002*		$\chi^2(1) = 15.473$ *p < .001*	
Age left school						
At 15	37.6% (n = 312)	41.3% (n = 476)	37.3% (n = 180)	41.4% (n = 264)	38.2% (n = 132)	41.2% (n = 212)
16 or above	62.4% (n = 517)	58.7% (n = 676)	62.7% (n = 303)	58.6% (n = 373)	61.8% (n = 214)	58.8% (n = 303)
Chi Square	$\chi^2(1) = 2.731$ *p = .098*		$\chi^2(1) = 2.003$ *p = .157*		$\chi^2(1) = 0.784$ *p = .376*	
Employment Status						
Employed/Studying/Caring	78.8% (n = 646)	81.0% (n = 944)	83.4% (n = 403)	83.2% (n = 533)	72.1% (n = 243)	78.4% (n = 411)
Unemployed/Sick/Disabled	21.2% (n = 174)	19.0% (n = 221)	16.6% (n = 80)	16.8% (n = 108)	27.9% (n = 94)	21.6% (n = 113)
Chi Square	$\chi^2(1) = 1.528$ *p = .216*		$\chi^2(1) = 0.016$ *p = .899*		$\chi^2(1) = 4.498$ *p = .034*	

Table 9: Differences in household circumstances between clients of the North Cumbria and Nottingham cessation services

	Overall		Female		Male	
	Nottingham	**North Cumbria**	**Nottingham**	**North Cumbria**	**Nottingham**	**North Cumbria**
Single Parent						
Yes	8.0% (n = 67)	5.9% (n = 68)	12.2% (n = 60)	10.0% (n = 63)	2.0% (n = 7)	1.0% (n = 5)
No	92.0% (n = 770)	94.1% (n = 1078)	87.8% (n = 430)	90.0% (n = 569)	98.0% (n = 340)	99.0% (n = 509)
Chi Square	$\chi^2(1) = 3.270$ $p = .071$		$\chi^2(1) = 1.466$ $p = .226$		$\chi^2(1) = 1.645$ $p = .200$	
Lives with Spouse/Partner						
Yes	57.5% (n = 487)	66.1% (n = 773)	53.4% (n = 265)	60.5% (n = 391)	63.2% (n = 222)	72.9% (n = 382)
No	42.5% (n = 360)	33.9% (n = 397)	46.6% (n = 231)	39.5% (n = 255)	36.8% (n = 129)	27.1% (n = 142)
Chi Square	$\chi^2(1) = 15.396$ $p < .001$		$\chi^2(1) = 5.784$ $p = .016$		$\chi^2(1) = 9.161$ $p = .002$	
Smokers in the house						
Yes	39.3% (n = 346)	41.5% (n = 477)	41.3% (n = 211)	42.5% (n = 270)	36.6% (n = 135)	40.3% (n = 207)
No	60.7% (n = 534)	58.5% (n = 673)	58.7% (n = 300)	57.5% (n = 366)	63.4% (n = 234)	59.7% (n = 307)
Chi square	$\chi^2(1) = 0.965$ $p = .326$		$\chi^2(1) = 0.157$ $p = .692$		$\chi^2(1) = 1.230$ $p = .267$	
Number of adults in a house	2.00 (0.878)	2.02 (0.799)	1.94 (0.824)	1.95 (0.803)	2.08 (0.942)	2.12 (0.786)
Mann Whitney	$p = .114$		$p = .786$		$p = .067$	
Number of children in a household	0.78 (1.136)	0.57 (0.955)	0.86 (1.155)	0.63 (0.977)	0.67 (1.102)	0.50 (0.924)
Mann Whitney	$p < .001$		$p = .001$		$p = 019$	

Table 10: Differences in markers of addiction between clients of the North Cumbria and Nottingham cessation services

	Overall		Female		Male	
	Nottingham	**North Cumbria**	**Nottingham**	**North Cumbria**	**Nottingham**	**North Cumbria**
Time to first cigarette						
Under 5 minutes	29.6% (n = 261)	38.3% (n = 449)	30.1% (n = 153)	37.7% (n = 244)	29.0% (n = 108)	39.1% (n = 205)
Between 5 and 29 minutes	51.6% (n = 455)	45.1% (n = 528)	49.1% (n = 250)	45.9% (n = 297)	55.1% (n = 205)	44.1% (n = 231)
Over 30 minutes	18.7% (n = 165)	16.6% (n = 194)	20.8% (n = 106)	16.4% (n = 106)	15.9% (n = 59)	16.8% (n = 88)
Chi Square	$\chi^2(2) = 16.897$ $p < .001$		$\chi^2(2) = 8.545$ $p = .014$		$\chi^2(2) = 11.889$ $p = .003$	
Number of cigarettes						
10 or less	12.8% (n = 111)	12.5% (n = 142)	14.0% (n = 71)	13.3% (n = 85)	11.1% (n = 40)	11.5% (n = 57)
11-20	49.9% (n = 434)	43.3% (n = 493)	53.0% (n = 269)	47.1% (n = 302)	45.7% (n = 165)	38.4% (n = 191)
21+	37.3% (n = 324)	44.2% (n = 503)	33.1% (n = 168)	39.6% (n = 254)	43.2% (n = 156)	50.1% (n = 249)
Chi Square	$\chi^2(2) = 10.430$ $p = .005$		$\chi^2(2) = 5.366$ $p = .068$		$\chi^2(2) = 4.797$ $p = .091$	
Ease of going 24 hrs without smoking						
Ease	12.7% (n = 111)	13.0% (n = 151)	13.1% (n = 66)	12.6% (n = 81)	12.2% (n = 45)	13.4% (n = 70)
Difficult	87.3% (n = 761)	87.0% (n = 1014)	86.9% (n = 438)	87.4% (n = 562)	87.8% (n = 323)	86.6% (n = 452)
Chi Square	$\chi^2(1) = 0.024$ $p = .877$		$\chi^2(1) = 0.063$ $p = .802$		$\chi^2(1) = 0.268$ $p = .605$	
Reason for smoking						
Coping	27.2% (n = 198)	16.9% (n = 196)	30.2% (n = 130)	18.7% (n = 120)	22.8% (n = 68)	14.6% (n = 76)
Other	72.8% (n = 530)	83.1% (n = 965)	69.8% (n = 300)	81.3% (n = 522)	77.2% (n = 230)	85.4% (n = 443)
Chi Square	$\chi^2(1) = 28.845$ $p < .001$		$\chi^2(1) = 19.181$ $p < .001$		$\chi^2(1) = 8.714$ $p = .003$	

Table 11: Differences in interpersonal characteristics between clients of the North Cumbria and Nottingham cessation services

	Overall		Female		Male	
	Nottingham	**North Cumbria**	**Nottingham**	**North Cumbria**	**Nottingham**	**North Cumbria**
Number of quit attempts						
0-1	83.3% (n = 742)	87.3% (n = 1024)	82.9% (n = 427)	87.5% (n = 567)	83.8% (n = 315)	87.0% (n = 457)
2+	16.7% (n = 149)	12.7% (n = 149)	17.1% (n = 88)	12.5% (n = 81)	16.2% (n = 61)	13.0% (n = 68)
Chi Square	$\chi^2(1) = 6.625$ $p = .010$		$\chi^2(1) = 4.862$ $p = .027$		$\chi^2(1) = 1.911$ $p = .167$	
Self-reported health						
Good	70.6% (n = 609)	64.5% (n = 741)	69.2% (n = 344)	64.3% (n = 407)	72.6% (n = 265)	64.9% (n = 334)
Bad	29.4% (n = 253)	35.5% (n = 407)	30.8% (n = 153)	35.7% (n = 226)	27.4% (n = 100)	35.1% (n = 181)
Chi Square	$\chi^2(1) = 8.314$ $p = .004$		$\chi^2(1) = 3.021$ $p = .082$		$\chi^2(1) = 5.900$ $p = .015$	
Determination to quit						
Extremely determined	42.1% (n = 359)	33.6% (n = 388)	42.9% (n = 210)	33.7% (n = 215)	41.0% (n = 149)	33.5% (n = 173)
Other	57.9% (n = 494)	66.4% (n = 767)	57.1% (n = 280)	66.3% (n = 423)	59.0% (n = 214)	66.5% (n = 344)
Chi Square	$\chi^2(1) = 15.151$ $p < .001$		$\chi^2(1) = 9.899$ $p = .002$		$\chi^2(1) = 5.287$ $p = .021$	
Support to quit smoking						
Yes	89.7% (n = 798)	93.1% (n = 1095)	90.9% (n = 468)	94.6% (n = 615)	88.0% (n = 330)	91.3% (n = 480)
No	10.3% (n = 92)	6.9% (n = 81)	9.1% (n = 47)	5.4% (n = 35)	12.0% (n = 45)	8.7% (n = 46)
Chi Square	$\chi^2(1) = 7.856$ $p = .005$		$\chi^2(1) = 6.148$ $p = .013$		$\chi^2(1) = 2.544$ $p = .110$	
Relationship status & support						
In a relationship and supported	54.6% (n = 464)	64.1% (n = 749)	51.2% (n =255)	58.6% (n = 378)	59.4% (n = 209)	70.8% (n = 371)
Single and supported	34.6% (n = 294)	29.0% (n = 339)	39.4% (n = 196)	36.0% (n = 232)	27.8% (n = 98)	20.4% (n = 107)
Unsupported	10.8% (n = 92)	6.9% (n = 81)	9.4% (n = 47)	5.4% (n = 35)	12.8% (n = 45)	8.8% (n = 46)
Chi Square	$\chi^2(2) = 20.983$ $p < .001$		$\chi^2(2) = 9.944$ $p = .007$		$\chi^2(2) = 12.359$ $p = .002$	

Table 12: Differences in service use characteristics between clients using Nottingham and North Cumbria cessation services

	Overall		Female		Male	
	Nottingham	**North Cumbria**	**Nottingham**	**North Cumbria**	**Nottingham**	**North Cumbria**
Weeks of service use						
0-4	44.2% (n = 343)	50.0% (n = 588)	39.1% (n = 202)	52.5% (n = 342)	37.5% (n = 141)	46.8% (n = 246)
5-6	17.4% (n = 155)	32.6% (n = 384)	17.2% (n = 89)	29.6% (n = 193)	17.6% (n = 66)	36.3% (n = 191)
7+	44.2% (n = 394)	17.4% (n = 205)	43.6% (n = 225)	17.8% (n = 116)	44.9% (n = 169)	16.9% (n = 89)
Chi Square	$\chi^2(2) = 185.666$ $p < .001$		$\chi^2(2) = 94.878$ $p < .001$		$\chi^2(2) = 91.683$ $p < .001$	
Weeks of pharm use						
0-4	48.0% (n = 428)	65.8% (n = 774)	49.4% (n = 255)	68.7% (n = 447)	46.0% (n = 173)	62.2% (n = 327)
5-6	13.3% (n = 119)	21.2% (n = 250)	13.2% (n = 68)	19.0% (n = 124)	13.6% (n = 51)	24.0% (n = 126)
7+	38.7% (n = 345)	13.0% (n = 153)	37.4% (n = 193)	12.3% (n = 80)	40.4% (n = 152)	13.9% (n = 73)
Chi Square	$\chi^2(2) = 184.368$ $p < .001$		$\chi^2(2) = 101.358$ $p < .001$		$\chi^2(2) = 84.337$ $p < .001$	
Type of pharm used						
None	1.5% (n = 13)	3.0% (n = 34)	1.2% (n = 6)	3.6% (n = 22)	1.9% (n = 7)	2.3% (n = 12)
NRT	78.5% (n = 689)	78.6% (n = 879)	80.6% (n = 408)	82.6% (n = 498)	75.5% (n = 281)	74.0% (n = 381)
Zyban/Champix	20.0% (n = 176)	18.3% (n = 205)	18.2% (n = 92)	13.8% (n = 83)	22.6% (n = 84)	23.7% (n = 122)
Chi Square	$\chi^2(2) = 5.840$ $p = .054$		$\chi^2(2) = 10.139$ $p = .006$		$\chi^2(2) = 0.387$ $p = .824$	
Referral source						
Self	72.5% (n = 642)	62.9% (n = 736)	72.8% (n = 372)	39.7% (n = 257)	72.0% (n = 270)	34.0% (n = 178)
GP/Other	27.5% (n = 244)	37.1% (n = 435)	27.2% (n = 139)	60.3% (n = 391)	28.0% (n = 105)	66.0% (n = 345)
Chi Square	$\chi^2(1) = 252.143$ $p < .001$		$\chi^2(1) = 126.417$ $p < .001$		$\chi^2(1) = 125.921$ $p < .001$	
Quit CO						
4 week quit	46.3% (n = 413)	60.8% (n = 716)	45.5% (n = 235)	57.3% (n = 373)	47.3% (n = 178)	65.2% (n = 343)
Smokes/Lost to follow up	53.7% (n = 479)	39.2% (n = 461)	54.5% (n = 281)	42.7% (n = 278)	52.7% (n = 198)	34.8% (n = 183)
Chi Square	$\chi^2(1) = 43.226$ $p < .001$		$\chi^2(1) = 15.935$ $p < .001$		$\chi^2(1) = 28.695$ $p < .001$	
52 week quit	12.6% (n = 112)	16.2% (n = 191)	12.0% (n = 62)	13.2% (n = 86)	13.3% (n = 50)	20.0% (n = 105)
Smokes/Lost to follow up	87.4% (n = 780)	83.8% (n = 986)	88.0% (n = 454)	86.8% (n = 565)	86.7% (n = 326)	80.0% (n = 421)
Chi Square	$\chi^2(1) = 5.473$ $p = .019$		$\chi^2(1) = 0.371$ $p = .542$		$\chi^2(1) = 6.842$ $p = .009$	

Table 13: Differences in demographics between clients of the Glasgow cessation services

	Overall		Female		Male	
	Group	**1-1**	**Group**	**1-1**	**Group**	**1-1**
Mean age	49.81 (12.765)	44.37 (14.031)	49.93 (12.854)	45.23 (14.193)	49.59 (12.637)	43.17 (13.730)
T-test	$t(1393) = 6.755$, $p < .001$		$t(841) = 4.607$, $p < .001$		$t(255.909) = 5.067$, $p < .001$	
Ethnicity						
White British	94.3% (n = 383)	78.8% (n = 779)	94.8% (n = 253)	79.5% (n = 458)	93.5% (n = 130)	77.7% (n = 321)
Other	5.7% (n = 23)	21.2%(n = 210)	5.2% (n = 14)	20.5% (n = 118)	6.5% (n = 9)	22.3% (n = 92)
Chi Square	$\chi^2(1) = 50.145$ $p < .001$		$\chi^2(1) = 32.095$ $p < .001$		$\chi^2(1) = 17.369$ $p < .001$	
Deprivation Quintile						
20% most deprived quintiles	45.6% (n = 185)	56.8% (n = 562)	46.1% (n = 123)	57.8% (n = 333)	44.6% (n = 62)	55.4% (n = 229)
Other quintiles	54.4% (n = 221)	43.2% (n = 427)	53.9% (n = 144)	42.2% (n = 243)	55.4% (n = 77)	44.6% (n =184)
Chi Square	$\chi^2(1) = 14.668$ $p < .001$		$\chi^2(1) = 10.134$ $p < .001$		$\chi^2(1) = 4.906$ $p = .027$	
40% most deprived quintiles	62.1% (n = 252)	75.0% (n = 742)	64.4% (n = 172)	75.2% (n = 433)	57.6% (n = 80)	74.8% (n = 309)
Other quintiles	37.9% (n = 154)	25.0% (n = 247)	35.6% (n = 95)	24.8% (n = 143)	42.4% (n = `59)	25.2% (n = 104)
Chi Square	$\chi^2(1) = 23.590$ $p < .001$		$\chi^2(1) = 10.413$ $p = .001$		$\chi^2(1) = 14.896$ $p < .001$	

Table 14: Differences in the level of socioeconomic status between clients of the Glasgow cessation services

	Overall		Female		Male	
	Group	**1-1**	**Group**	**1-1**	**Group**	**1-1**
Receives free prescriptions						
Pay	59.5% (n = 185)	37.4% (n = 306)	55.2% (n = 112)	31.7% (n = 147)	67.6% (n = 73)	44.8% (n = 159)
Free	40.5% (n = 126)	62.6% (n = 512)	44.8% (n = 91)	68.3% (n = 316)	32.4% (n = 35)	55.2% (n = 196)
Chi Square	$\chi^2(1) = 44.688$ $p < .001$		$\chi^2(1) = 32.579$ $p < .001$		$\chi^2(1) = 17.225$ $p < .001$	
Housing Tenure						
Rents	37.8% (n = 153)	56.8% (n = 561)	36.5% (n = 97)	55.6% (n = 319)	40.3% (n = 56)	58.6%(n = 242)
Other	62.2% (n = 252)	43.2% (n = 426)	63.5% (n = 169)	44.4% (n = 255)	59.7% (n = 83)	41.4% (n = 171)
Chi Square	$\chi^2(1) = 41.762$ $p < .001$		$\chi^2(1) = 26.551$ $p < .001$		$\chi^2(1) = 14.032$ $p < .001$	
Age left school						
At 15	39.4% (n = 159)	32.9% (n = 324)	40.8% (n = 108)	33.6% (n = 193)	36.7% (n = 51)	31.9% (n = 131)
16 or above	60.6% (n = 245)	67.1% (n = 662)	59.2% (n = 157)	66.4% (n = 382)	63.3% (n = 88)	68.1% (n = 280)
Chi Square	$\chi^2(1) = 5.334$ $p = .021$		$\chi^2(1) = 4.078$ $p = .043$		$\chi^2(1) = 1.089$ $p = .297$	
Employment Status						
Employed/Studying/Caring	83.4% (n = 337)	67.7% (n = 626)	84.6% (n = 225)	70.6% (n = 379)	81.2% (n = 112)	63.7% (n = 247)
Unemployed/Sick/Disabled	16.6% (n = 67)	32.3% (n = 299)	15.4% (n = 41)	29.4% (n = 158)	18.8% (n = 26)	36.3% (n = 141)
Chi Square	$\chi^2(1) = 34.911$ $p < .001$		$\chi^2(1) = 18.729$ $p < .001$		$\chi^2(1) = 14.386$ $p < .001$	

Table 15: Differences in the household circumstances between clients of the Glasgow cessation services

	Overall		Female		Male	
	Group	**1-1**	**Group**	**1-1**	**Group**	**1-1**
Single Parent						
Yes	5.7% (n = 23)	11.1% (n = 109)	8.6% (n = 23)	16.5% (n = 94)	0%	3.6% (n = 15)
No	94.3% (n = 380)	88.9% (n = 872)	91.4% (n = 243)	83.5% (n = 475)	100.0% (n = 137)	96.4% (n = 397)
Chi Square	$\chi^2(1) = 9.668$ $p = .002$		$\chi^2(1) = 9.326$ $p = .002$		$\chi^2(1) = 5.128$ $p = .024$	
Lives with Spouse/Partner						
Yes	52.3% (n = 212)	48.8% (n = 481)	47.0% (n = 125)	44.9% (n = 257)	62.6% (n = 87)	54.2% (n = 224)
No	47.7% (n = 193)	51.2% (n = 504)	53.0% (n = 141)	55.1% (n = 315)	37.4% (n = 52)	45.8% (n = 189)
Chi Square	$\chi^2(1) = 1.417$ $p = .234$		$\chi^2(1) = 0.311$ $p = .577$		$\chi^2(1) = 2.950$ $p = .086$	
Smokers in the house						
Yes	42.2% (n = 167)	43.9% (n = 433)	42.0% (n = 110)	56.7% (n = 325)	42.5% (n = 57)	44.8% (n = 185)
No	57.8% (n = 229)	56.1% (n = 553)	58.0% (n = 152)	43.3% (n = 248)	57.5% (n = 77)	55.2% (n = 228)
Chi square	$\chi^2(1) = 0.349$ $p = .554$		$\chi^2(1) = 0.123$ $p = .725$		$\chi^2(1) = 0.209$ $p = .648$	
Number of adults in a house	2.04 (1.140)	1.94 (0.967)	2.01 (1.213)	1.88 (0.903)	2.11 (0.983)	2.02 (1.045)
Mann Whitney	$p = .191$		$p = .261$		$p = .305$	
Number of children in a household	0.41 (1.217)	0.62 (1.029)	0.49 (1.410)	0.70 (1.112)	0.25 (0.684)	0.52 (0.894)
Mann Whitney	$p < .001$		$p < .001$		$p < .001$	

Table 16: Differences in measures of addiction between clients of the Glasgow cessation services

	Overall		Female		Male	
	Group	**1-1**	**Group**	**1-1**	**Group**	**1-1**
Time to first cigarette						
Under 6 minutes	52.9% (n = 210)	57.0% (n = 559)	55.6% (n = 144)	57.7% (n = 329)	47.8% (n = 66)	56.1% (n = 230)
Between 6 and 30 minutes	34.3% (n = 136)	27.7% (n = 271)	32.4% (n = 84)	27.9% (n = 159)	37.7% (n = 52)	27.3% (n = 112)
Over 31 minutes	12.8% (n = 51)	15.3% (n = 150)	12.0% (n = 31)	14.4% (n = 82)	14.5% (n = 20)	16.6% (n = 68)
Chi Square	$\chi^2(2) = 6.209$ $p = .045$		$\chi^2(2) = 2.154$ $p = .341$		$\chi^2(2) = 5.295$ $p = .071$	
Number of cigarettes						
10 or less	11.7% (n = 47)	13.6% (n = 134)	13.0% (n = 34)	13.9% (n = 80)	9.4% (n = 13)	13.1% (n = 54)
11-20	46.6% (n = 187)	46.3% (n = 457)	47.7% (n = 125)	48.2% (n = 277)	44.6% (n = 62)	43.7%(n = 180)
21+	41.6% (n = 167)	40.1% (n = 396)	39.3% (n = 103)	37.9% (n = 218)	46.0% (n = 64)	43.2% (n = 178)
Chi Square	$\chi^2(2) = 0.923$ $p = .630$		$\chi^2(2) = 0.216$ $p = .898$		$\chi^2(2) = 1.415$ $p = .493$	
Ease of going 24 hrs without smoking						
Ease	12.3% (n = 49)	12.2% (n = 118)	12.2% (n = 32)	10.9% (n = 61)	12.3% (n = 17)	14.1%(n = 57)
Difficult	87.7% (n = 351)	87.8% (n = 849)	87.8% (n = 230)	89.1% (n = 501)	87.7% (n = 121)	85.9%(n = 348)
Chi Square	$\chi^2(1) = 0.001$ $p = .981$		$\chi^2(1) = 0.330$ $p = .566$		$\chi^2(1) = 0.269$ $p = .604$	
Reason for smoking						
Coping	16.9% (n = 68)	21.7% (n = 211)	18.6% (n = 49)	23.6% (n = 133)	13.7% (n = 19)	19.1%(n = 78)
Other	83.1% (n = 335)	78.3% (n = 761)	81.4% (n = 215)	76.4% (n = 431)	86.3% (n = 120)	80.9% (n = 330)
Chi Square	$\chi^2(1) = 4.117$ $p = .042$		$\chi^2(1) = 2.644$ $p = .104$		$\chi^2(1) = 2.110$ $p = .146$	

Table 17: Differences in interpersonal characteristics between clients of the Glasgow cessation services

	Overall		Female		Male	
	Group	**1-1**	**Group**	**1-1**	**Group**	**1-1**
Number of quit attempts						
0-1	62.8% (n = 250)	78.1% (n = 754)	60.8% (n = 158)	78.7% (n = 440)	66.7% (n = 92)	77.3% (n = 314)
2+	37.2% (n = 148)	21.9% (n = 211)	39.2% (n = 102)	21.3% (n = 119)	33.3% (n = 46)	22.7% (n = 92)
Chi Square	$\chi^2(1) = 34.090$ $p < .001$		$\chi^2(1) = 28.997$ $p < .001$		$\chi^2(1) = 6.197$ $p = .013$	
Self-reported health						
Good	70.8% (n = 281)	74.7% (n = 738)	69.2% (n = 180)	72.5% (n = 417)	73.7% (n = 101)	77.7% (n = 321)
Bad	29.2% (n = 116)	25.3% (n = 250)	30.8% (n = 80)	27.5% (n = 158)	26.3% (n = 36)	22.3%(n = 92)
Chi Square	$\chi^2(1) = 2.233$ $p = .135$		$\chi^2(1) = 0.952$ $p = .329$		$\chi^2(1) = 0.922$ $p = .337$	
Determination to quit						
Extremely determined	37.7% (n = 153)	35.1% (n = 346)	39.3% (n = 105)	34.5% (n = 198)	34.5% (n = 48)	35.8%(n = 148)
Other	62.3% (n = 253)	64.9% (n = 641)	60.7% (n = 162)	65.5% (n = 376)	65.5% (n = 91)	64.2% (n = 265)
Chi Square	$\chi^2(1) = 0.865$ $p = .352$		$\chi^2(1) = 1.845$ $p = .174$		$\chi^2(1) = 0.077$ $p = .781$	
Support to quit smoking						
Yes	85.0% (n = 345)	75.9% (n = 750)	84.6% (n = 226)	78.6% (n = 452)	85.6% (n = 119)	72.2% (n = 298)
No	15.0% n = 61)	24.1% (n = 238)	15.4% (n = 41)	21.4% (n = 123)	14.4% (n = 20)	27.8% (n = 115)
Chi Square	$\chi^2(1) = 14.033$ $p < .001$		$\chi^2(1) = 4.235$ $p = .040$		$\chi^2(1) = 10.193$ $p = .001$	
Relationship status & support						
In a relationship and supported	48.9% (n = 198)	41.9% (n = 413)	43.2% (n = 115)	38.4% (n = 220)	59.7% (n = 83)	46.7% n =193)
Single and supported	36.0% (n = 146)	34.0% (n = 335)	41.4% (n = 110)	40.1% (n = 230)	25.9% (n = 36)	25.4% (n = 105)
Unsupported	15.1% (n = 61)	24.1% (n = 238)	15.4% (n = 41)	21.5% (n = 123)	14.4% (n = 20)	27.8% (n = 115)
Chi Square	$\chi^2(2) = 14.564$ $p = .001$		$\chi^2(2) = 4.536$ $p = .104$		$\chi^2(2) = 11.214$ $p = .004$	

Table 18: Differences in service use characteristics between clients of the Glasgow cessation services

	Overall		Female		Male	
	Group	**1-1**	**Group**	**1-1**	**Group**	**1-1**
Weeks of service use						
0-4	26.6% (n = 108)	56.5% (n = 559)	26.2% (n = 70)	54.9% (n = 316)	27.3% (n = 38)	58.8% (n = 243)
5-6	16.0% (n = 65)	10.8% (n = 107)	15.0% (n = 40)	11.6% (n = 67)	18.0% (n = 25)	9.7% (n = 40)
7+	57.4% (n = 233)	32.7% (n = 323)	58.8% (n = 157)	33.5% (n = 193)	54.7% (n = 76)	31.5% (n = 130)
Chi Square	$\chi^2(2) = 104.351$ $p < .001$		$\chi^2(2) = 62.416$ $p < .001$		$\chi^2(2) = 41.354$ $p < .001$	
Weeks of pharm use						
0-4	51.2% (n = 208)	56.7% (n = 561)	50.9% (n = 136)	55.2% (n = 318)	51.8% (n = 72)	58.8% (n = 243)
5-6	37.4% (n = 152)	10.9% (n = 108)	37.5% (n = 100)	11.6% (n = 67)	37.4% (n = 52)	9.9% (n = 41)
7+	11.3% (n = 46)	32.4% (n = 320)	11.6% (n = 31)	33.2% (n = 191)	10.8% (n = 15)	31.2% (n = 129)
Chi Square	$\chi^2(2) = 158.679$ $p < .001$		$\chi^2(2) = 94.188$ $p < .001$		$\chi^2(2) = 64.188$ $p < .001$	
Type of pharm used						
None	2.2% (n = 9)	0.3% (n = 3)	2.2% (n = 6)	0.2% (n = 1)	2.2% (n = 3)	0.5% (n = 2)
NRT	81.0% (n = 329)	99.6% (n = 985)	79.0% (n = 211)	99.7% (n = 574)	84.9% (n = 118)	99.5%(n = 411)
Zyban/Champix	16.7% (n = 68)	0.1% (n = 1)	18.7% (n = 50)	0.2% (n = 1)	12.9%(n = 18)	0%
Chi Square	$\chi^2(2) = 184.058$ $p < .001$		$\chi^2(2) = 121.580$ $p < .001$		$\chi^2(2) = 59.020$ $p < .001$	
Referral source						
Self	39.1% (n = 147)	74.1% (n = 733)	37.8% (n = 93)	74.0% (n = 426)	41.5% (n = 54)	74.3% (n = 307)
GP/Other	60.9% (n = 229)	25.9% (n = 256)	62.2% (n = 153)	26.0% (n = 150)	58.5% (n = 76)	25.7% (n = 106)
Chi Square	$\chi^2(1) = 145.852$ $p < .001$		$\chi^2(1) = 96.810$ $p < .001$		$\chi^2(1) = 47.725$ $p < .001$	
Quit CO						
4 week quit	35.7% (n = 147)	20.4% (n = 202)	34.8% (n = 93)	20.5% (n = 118)	37.4% (n = 52)	20.3% (n = 84)
Smokes/Lost to follow up	64.3% (n = 261)	79.6% (n = 787)	65.2% (n = 174)	79.5% (n = 458)	62.6% (n = 87)	79.7% (n = 329)
Chi Square	$\chi^2(1) = 36.008$ $p < .001$		$\chi^2(1) = 20.007$ $p < .001$		$\chi^2(1) = 16.323$ $p < .001$	
52 week quit	6.4% (n = 26)	3.4% (n = 34)	6.4% (n = 17)	3.1% (n = 18)	6.5% (n = 9)	3.9% (n = 16)
Smokes/Lost to follow up	93.6% (n = 380)	96.6% (n = 955)	93.6% (n = 250)	96.9% (n = 558)	93.5% (n = 130)	96.1% (n = 397)
Chi Square	$\chi^2(1) = 6.152$ $p = .013$		$\chi^2(1) = 4.819$ $p = .028$		$\chi^2(1) = 1.627$ $p = .202$	